Risk and Resilience in Military and Veteran Families

Shelley MacDermid Wadsworth
David S. Riggs *Editors*

# War and Family Life

Springer

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*Series Editor*

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*To military and veteran families everywhere*
*and all who serve them*

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**Zahava Solomon, Ph.D.** is a Professor of Psychiatric Epidemiology and Social Work at the Tel Aviv University and director of the Center of Excellence for the Study of Mass Trauma. She received both her B.A. and M.A. from the University of Haifa, Israel, and her Ph.D. in Psychiatric Epidemiology from the University of Pittsburgh, USA. Her research focuses on traumatic stress and particularly on the psychological sequel of combat stress reactions, war captivity, and the Holocaust. Prof. Solomon published six books and over 400 articles and books chapters in leading psychological and psychiatric journals. Prof. Solomon earned numerous Israeli and international awards and research grants including the Laufer Award for Outstanding Scientific Achievement in the field of PTSD by the International Society of Traumatic Stress Studies. In 2009, Prof. Solomon was awarded the Prize of Israel, which is the highest distinction for academic achievements in Israel. Recently Prof. Solomon was selected by the Israeli Science Academy to head and lead a multidisciplinary center of Excellence of Trauma research.

**Major Kimberly A. Speck, Ph.D.** served 18 years in the United States Army. She began her career as an officer in the Signal Corps where she served in many roles including as commander of a basic training battery and instructor at the United States Military Academy at West Point. After obtaining a masters degree in psychology, Major Speck taught courses in Psychology for Leaders and counseling psychology at West Point. Later she transferred to the Medical Service Corps in order to pursue her Ph.D. in clinical psychology at the Uniformed Services University of the Health Sciences, which she received in 2012. Major Speck's research focused on the impact of combat and deployment on military families. In 2014 Kim passed away after an extended battle with breast cancer.

**Valerie A. Stander, Ph.D.** has studied the psychological and behavioral health of Sailors and Marines at the Naval Health Research Center for the past 16 years. During that time she has conducted research on a number of different issues such as interpersonal violence, substance abuse prevention, and self-help for returning combat veterans. At the Naval Health Research Center, a large proportion of her work has been with the Navy Survey of Recruits' Behaviors, examining the impact of premilitary and military traumas such as childhood sexual abuse and adult sexual assault, on the health and well-being of junior enlisted personnel. Currently, Dr. Stander continues to be interested in the issue of multiple traumatic exposures, particularly in conjunction with combat experiences. She collaborates with Research Triangle Institute on a study of individual and unit-level risk factors for military workplace violence, with a particular focus on deploying forces. As a graduate of the Purdue University Family Studies program, Dr. Stander continues to work with Dr. Shelley MacDermid, Director of the Purdue Military Family Research Institute, supporting projects on family diversity. She has most recently accepted the responsibility of Principal Investigator for Millennium Cohort Family Study research team, a 20-year longitudinal study of the impact of military operations on the spouses and children of active-duty and reserve personnel from all service branches.

**Jeffrey L. Thomas, Ph.D.** is a Research Psychologist and Lieutenant Colonel in the United States Army. He is currently the Commander of the US Army Medical Research Unit—Europe in Sembach, Germany. Dr. Thomas received his doctoral degree from Wayne State University in applied social psychology. He has been engaged in numerous military behavioral health research initiatives throughout his Army career including the Mental Health Advisory Teams (MHATs) in Iraq and Afghanistan, Information Exchanges on Military Psychology and Resilience in Uganda and Kenya, and dozens of other military research studies focused on stress, health, and performance across garrison, training, and operational environments. Dr. Thomas has communicated the results of these studies through over 60 peer-reviewed scientific papers and book chapters and has presented Army behavioral health research at dozens of professional and military conferences.

**Cynthia J. Thomsen, Ph.D.** is a research psychologist and the head of the Health and Behavioral Sciences Department at the Naval Health Research Center (NHRC).

She obtained her doctorate in Psychology at the University of Minnesota. Dr. Thomsen spent several years on the faculty at Tufts University, where she taught courses in social and personality psychology, statistics, and research methods. She then joined the Center for the Study of Family Violence and Sexual Assault at Northern Illinois University, where she began to conduct research on military families and interpersonal violence. Since joining NHRC, Dr. Thomsen has continued to study military sexual violence. More generally, her research interests focus on predicting and mitigating adverse mental and behavioral health outcomes among service members and their families.

**Marcia Valenstein, M.D., M.S.** is a Professor of Psychiatry at the University of Michigan and a Research Scientist in the Department of Veterans Affairs at CCMR. She has had over 25 years of experience in the clinical care of veterans and a large research portfolio that includes numerous federally funded projects assessing mental health symptoms, treatment, and functioning. She has developed and implemented innovative programs to improve the care of patients with depression and other mental health disorders and to identify and connect veterans with need to appropriate resources. Recent projects have included the development and evaluation of a veteran peer outreach program for newly returning National Guard Soldiers, the assessment of mental health symptoms and functioning in college student veterans, and a project on peer support for college student veterans. These programs emphasize improving the functioning and the successful employment of veterans.

**Dawne Vogt, Ph.D.** is a Research Psychologist in the Women's Health Sciences Division of the National Center for Posttraumatic Stress Disorder, VA Boston Healthcare System, and Associate Professor of Psychiatry at Boston University School of Medicine. Her research interests are in gender differences in deployment stressors and postdeployment mental health, family functioning and resilience in military personnel and veterans, and barriers to mental health treatment. Dr. Vogt has served as PI for a number of funded studies on these topics and has published extensively in the military and veteran literature. She is also the primary author of the recently updated Deployment Risk and Resilience Inventory—2 (DRRI-2), a suite of scales that can be used to assess deployment-related risk and resilience factors with documented implications for the postdeployment health of returning service members and veterans.

**Heather M. Walters, M.S.** is a Research Project Manager at the Ann Arbor VA Center for Clinical Management Research. She completed her graduate training in Rehabilitation Counseling Psychology at UT Southwestern Medical Center in Dallas and has over 13 years of research management experience. She has managed multiple research projects focused on veterans and their mental health needs. Specifically, Ms. Walters has managed several projects related to military deployment including the evaluation of the Buddy-to-Buddy program and an SBIRT RCT in the MIARNG.

**Kathleen M. Wright, Ph.D.** is a senior consultant and analyst for the Military Psychiatry Branch at the Center for Military Psychiatry and Neurosciences, Walter Reed Army Institute of Research (WRAIR). She obtained her doctoral degree from Cornell University and received clinical training at the Yale University School of Medicine. Dr. Wright directed the Psychological Screening Research Program at the WRAIR forward-based laboratory in Germany where she was the project lead for studies conducted with service members returning from combat deployments to Iraq and Afghanistan. Her work included the assessment of post-combat mental health outcomes and reintegration service delivery programs, as well as issues related to the transition of service members returning home to their families.

**Gadi Zerach, Ph.D.** is a licensed clinical psychologist and a senior lecturer in the Department of Behavioral Sciences at Ariel University. He obtained his doctoral degree from Tel Aviv University. Dr. Zerach's research focuses on the understanding of trauma and Post-traumatic Stress Disorder (PTSD) among diverse populations such as veterans who experienced Combat Stress Reaction (CSR), former prisoners of war captivity (Ex-POWs), and helping professionals (e.g., psychiatric nurses). He and his collaborators also study the phenomena of "Secondary traumatization" among trauma victims' relatives and the effect of trauma and PTSD on victims' family environment.

**Kara Zivin, Ph.D., M.S., M.A.** is an Associate Professor in the Department of Psychiatry at the University of Michigan and a Research Scientist in the Health Services Research and Development (HSR&D) VA CCMR. Dr. Zivin is a mental health services researcher whose work focuses on predictors and consequences of depression and its treatment. She completed a VA Career Development Award examining the cost-effectiveness of depression care for veterans and is the Principal Investigator on two current VA studies, one examining the risk of death among depressed veterans and another examining employment support needs among VA primary care patients. In addition, she collaborates on a number of other studies examining primary care—mental health integration, veteran suicide, adherence to and quality of depression treatment, and evaluation of employment interventions for veterans with mental disorders.

# Chapter 1
# State of the Science Regarding Military-Connected Families

**Linda Hughes-Kirchubel, Shelley MacDermid Wadsworth, and David S. Riggs**

**Abstract** In 2013, more than 70 leading clinicians, researchers and scholars from around the world participated in the fourth International Research Symposium on Military and Veteran Families. Organized by the Military Family Research Institute (MFRI) at Purdue University, in partnership with the Center for Deployment Psychology at the Uniformed Services University of the Health Sciences, the symposium combined presentations about current research and discussions to produce consensus proposals for future research and training priorities regarding military and veteran families. This chapter summarizes key points from each of the presentations as well as the consensus proposals regarding research and training.

**Keywords** Marriage • Parenting • Single service members • Wounds and injuries • Research • Training

The chapters in this volume describe research presented during the 2013 International Research Symposium on Military and Veteran Families. This was the fourth such symposium organized by the Military Family Research Institute (MFRI) at Purdue University, in partnership with the Center for Deployment Psychology at the Uniformed Services University of the Health Sciences. More than 70 leading

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clinicians, researchers, and scholars from around the world were selected to attend this event.

The symposium was organized into four sessions presented over 2 days. Each session comprised a series of scholarly presentations and a policy update, after which working groups collaborated to discuss research and training questions that had been prepared ahead of time with a forward-looking focus. Participants discussed the questions, and nominated topics for further consideration. After all nominations were completed, they were posted for review by all participants, after which participants voted to select the responses that appear in this chapter.

## 1.1 Session I: Marital and Family Functioning

This conference session was moderated by David Riggs, Ph.D., executive director of the Center for Deployment Psychology, who also acted as discussant. Judith Dekle, LCSW, Senior Program Analyst within the Department of Defense Office of Family Policy, provided a policy and program update. The chapters that follow address family challenges related to military service during wartime, including family stressors, marital instability, and relationship distress.

In Chap. 2, Dawne Vogt and colleagues present findings related to their continuing work to develop measurement tools for studying deployment-related experiences. The newly developed second iteration of the Deployment Risk and Resilience Inventory incorporates measures of exposure to stressful family events, concerns related to family issues, and social support from family and friends during deployment. Using a survey mailed to a nationally representative sample of 1046 OIF/OEF veterans who had returned from deployment within the past 2 years, the researchers documented patterns of exposure to potential stressors, as well as the connections between those stressors and outcomes including PTSD, depression, alcohol abuse, life satisfaction, and postdeployment family functioning. Respondents were more likely to endorse subjective family concerns like missing important family events or worry about being unable to help the family during separation, than objective family stressors such as a loved one experiencing a serious illness or mental health problem. Most service members were satisfied with the amount of support they received from their families. There were multiple significant relationships between family experiences during deployment and mental health following deployment, and despite being endorsed more frequently, subjective family concerns were less strongly related to outcomes than objective stressors and social support. The researchers recommend that the findings of the study be used to inform predeployment programming that can help families to develop effective and proactive plans for managing both objective family stressors and subjective family concerns, maintain meaningful involvement in family life, and cope with grief during deployment.

In Chap. 3, Negrusa, Negrusa, and Hosek zero in on divorce as a specific potential consequence of deployment. In recent years, several major analyses of DoD archival data about deployments and marital stability have generated inconsistent findings, which is puzzling given that several of these investigations have used similar population-level archival data from DoD records. Even though raw divorce rates rose over the course of the wars, Karney and colleagues found no links to deployment exposures (Karney & Crown, 2007), and no discrepancy between changes in military and civilian rates (Karney, Loughran, & Pollard, 2012). Earlier analyses had also shown that females (Karney & Crown, 2007) and service members experiencing hostile deployments were especially vulnerable to divorce (Negrusa, Negrusa, & Hosek, 2013). In this chapter, Negrusa, Negrusa, and Hosek add explanatory variables, including the timing of marriage (before or after September 11, 2001), the length and nature of deployment (hostile, nonhostile), and the timing of deployment relative to length of marriage. Analyses in the current study considered 462,444 military personnel who entered military service and married between March 1999 and June 2008. The results showed that service members' deployments increased the risk of divorce when they occurred before marriage, were lengthy, or took place in couples who had married without the expectation of lengthy deployments (i.e., married prior to but deployed following 9/11). Consistent with Becker's (1974) theory of marriage, the authors concluded that military couples who married before 9/11 experienced negative "shocks" to their marriages as a result of deployments and as a result, were more vulnerable to divorce.

Distress is a common experience in families following deployments, particularly when service members return with psychological symptoms (Institute of Medicine, 2013). Even symptoms that do not reach clinically significant levels can produce individual and relationship distress (e.g., Campbell & Renshaw, 2012). In Chap. 4, Campbell and Renshaw review literature related to the mechanisms through which distress can be produced in couples where service members have been exposed to combat-related trauma. They focus in particular on studies guided by models that incorporate cognitive, behavioral, and interpersonal influences in the development of distress within relationships. The literature to date suggests several primary themes. For example, partners who misunderstand the connection between service members' deployment experiences and symptoms may erroneously attribute service members' symptoms to them personally rather than their wartime experiences, which may increase the partner's own distress. Partners also can over-accommodate to veterans' symptoms, increasing their own burden, perpetuating the symptoms, and decreasing relationship satisfaction. The emotional numbing symptom cluster associated with PTSD can impair marital communication, in turn producing relationship distress. Finally, PTSD symptoms can elevate physiological arousal during conflict and impair sexual functioning, each of which can also produce relationship distress. The authors recommend that future relationship researchers gather data from both partners, including assessment of each partner's trauma history, use research designs that provide insight into causal processes throughout military service, and pay greater attention to diversity among military-connected families. Clinicians are urged to involve partners and attend to their perspectives during treatment of service members and veterans.

In an international contribution, Zerach and Solomon in Chap. 5 contrast the experiences of wives of Israeli men who had experienced combat with those who also had experienced imprisonment as prisoners of war during the Yom Kippur war in 1973. The authors are particularly interested in processes of vicarious traumatization within couples, where partners may experience more distress and symptomology than might be expected from their direct experiences alone. Three waves of data collection generated insights about the course of PTSD and its consequences for wives as individuals as well as for the marital relationship. Findings showed that captivity appeared to be substantially more traumatizing than combat, with POWs more likely to experience "complex" PTSD with more severe and complicated symptoms and personality changes. The authors speculate that captivity poses a greater threat to fundamental world views than combat alone and thus has more severe consequences.

Zerach and Solomon also observed complex dynamics in couple relationships. Wives were particularly likely to display high levels of symptoms when husbands were experiencing complex PTSD, or when they themselves experienced very high levels of empathy and fusion with their husbands. These outcomes were worse when husbands displayed aggression, and seemed to be eased by self-disclosure and expressiveness between spouses. The authors highlight the importance of the marital relationship for positive and negative outcomes in both partners. High quality marital relationships, with stable boundaries and optimal levels of self-disclosure, sexual intimacy and satisfaction may be protective for partners, but poor relationships may exacerbate risk. Partners appeared to fare better in the face of chronic than new-onset PTSD, although aging is bringing new challenges to these couples.

Following the presentations, working groups considered strategic questions about priorities for research and training. Regarding research, attendees considered the following question: ***Large longitudinal studies of military families are now underway. What research questions are most important for these researchers to address, given what has already been learned during the current conflicts?*** Following a structured discussion, attendees reviewed all responses provided and were given an opportunity to endorse those they felt should become a recommendation from the group. The most-endorsed research priorities were to:

- Compare deploying military families with non-deploying military and civilian families who are similar in terms of economic, health, and social status.
- Study the role of members of the extended family including siblings in helping military families meet the demands of military life, and include diverse types of military families such as LGB families.
- Pursue more rigorous designs so that change over time is accurately assessed. The need for meta-analyses that include unpublished data was specifically mentioned, as was the need for randomized controlled trials of interventions.
- Identify the optimal types of communication most likely to lead to adaptive family outcomes in the context of military service and deployment, considering frequency, mode, content, and other factors.

Regarding training, attendees considered the following question: ***Community-based behavioral health providers around the country are being trained to work with military couples. What are the most important things for these providers to be trained to understand about military couples?*** Following the structured discussion, the most-endorsed training priorities were to help community-based providers understand how:

- "Mission first" and "family first" concepts affect military couples.
- To provide families with problem-solving tools that can be used at home and not always in a traditional therapy setting.
- To use narrative approaches that will help family members understand each other's perspectives and also to help providers to understand them.

## 1.2 Session II: Parent and Child Outcomes

At the conference, this session was moderated by Dr. Dave Topp of the Military Family Research Institute. Joyce Raezer, Executive Director of the National Military Family Association provided a policy update, and Brian D. Leidy, Ph.D, principal investigator and director of military projects and senior extension associate in the Bronfenbrenner Center for Translational Research at Cornell University, served as discussant. In the chapters that follow, scholars consider mothering and fathering from both historical and modern vantage points.

In Chap. 6, LaRossa observes that while there has been considerable attention to military parents, the focus has been almost exclusively on service members as parents themselves, whereas the parents of service members themselves are often mentioned but seldom studied. Taking a long-term historical view, LaRossa considers the concept of "parent care," focusing both on care *by* parents and care *of* parents by others. Guided by a social constructivist approach, he emphasizes the cognitive processes humans use to engage and understand phenomena: perceiving, focusing, signifying, timing, remembering, and classifying. Each of these processes has both individual and collective elements, in that individuals have their own views but that there also are social norms and perceptions about the appropriate roles of mothers and fathers. He considers, for example, the "paradox of care," which contrasts the "good" mother who protects and provides care for her child and discourages military service with the "patriotic" mother, who encourages her child to pursue military service. Extending the notion to fathers, he considers the tension between the goals of protecting children vs. protecting the nation. He examines the role of gender of both parents and children in shaping these perceptions, and considers them in the historical contexts of World War II, the Vietnam War, and other conflicts.

In a much more immediate consideration of military parents, Speck and Riggs present in Chap. 7 results from one of the first studies to examine parenting styles among military families (defined as families in which one or both parents had in the

past or was now serving in the military). A convenience sample of 316 mothers of children aged 12–18 from military and civilian families provided data via an online survey about parenting and deployment experiences including frequency and duration. There were demographic differences between the groups, in that military mothers were younger, less educated, and more likely than civilian mothers to be members of ethnic minority groups. They also had been married more recently, had moved more often, and had more children than civilian mothers. In general, however, both groups of mothers reported good mental health and high levels of marital satisfaction. Among the mothers in military families, no relationships were found between mental health or parenting practices and deployment. Among civilian mothers, there were significant relationships between their anxiety and depression and their restrictiveness as parents. Although reports of nurturance were high among mothers in general, levels of nurturance were lower and levels of restrictiveness were higher among military mothers, and younger mothers with less residential stability. Overall, military mothers' parenting was more likely to correspond to an authoritarian style, while civilian mothers' parenting was more likely to correspond to a permissive style, a difference that may have been due in part to demographic differences between the military and civilian mothers.

In another of the international contributions, Susan Neuhaus and colleagues in Chap. 8 review data related to women serving in the Australian Defence Force. Similar to other nations, Australian women's early involvement in the armed forces was largely in health care roles, often as nurses, but representation of women across the force recently has been increasing and women now have been cleared to enter combat roles. Also similar to other nations, female veterans tend to be underrepresented in research samples, although several studies are now underway.

An emerging issue is tension between movement toward gender-neutral standards for performance and gender-specific health concerns. For women, reproductive concerns are especially important, not only for their health but also for continued service in the armed forces. Service members express concerns about birth defects, multiple miscarriages, fertility, and endometriosis, although these are more common among older than younger women. With regard to retention, a substantial minority of women leave the military soon after maternity leave, and work-related injuries in the aftermath of childbirth also are possible threats to retention. Although mothers generally are no more likely to expect negative than nil or positive effects of deployment on their children, mothers who have been deployed are almost twice as likely to anticipate negative impacts.

As in the USA, women in the ADF are more likely to report mental health disorders. Although women are more likely than men to report knowing where to get help, women perceive that others lack understanding of gender-specific issues like reproductive health and military sexual trauma, which can constitute barriers to care. The authors recommend increased awareness of women's issues and expansion of gender-specific prevention and treatment practices.

Following the research presentations, the working groups considered strategic questions about priorities for research and training. Regarding research, attendees considered the following question: ***Based on what we have learned over the past 10***

***years about deployment and children—what are the next questions that most urgently need to be addressed?*** Following a structured discussion, attendees reviewed all responses provided and were given an opportunity to endorse those they felt should become a recommendation from the group. The highest-priority research questions were:

- What do long-term outcomes look like for children of deployed parents, and how do these vary as a function of service branch or parents' length of service, socio-economic factors, child age, and family history of military service?
- What can be learned from successful military families?
- How can what has been learned about the changing military landscape be used to help families and children?
- How can families be more successfully engaged to participate in programs?

Researchers also highlighted the importance of methodological innovations including following children not only through deployments but also beyond parents' discharge from the military, and more studies gathering data directly from children, rather than relying on parental reports.

Regarding training, attendees considered the following question: ***Based on what has been learned about children and military life, what are the most important things for civilians in helping professions to understand about military children?*** Following the structured discussion, the most-endorsed training priorities for civilian helping professionals were:

- Learning to distinguish normal child development issues from military-related issues.
- Training for civilian helping professionals, including teachers, about military culture and military stressors; sensitivity to children from military families; and working with children of wounded or deceased service members.
- Helping civilian professionals to be aware of the possible presence of Guard/Reserve children in their clientele, their potential needs including signs and symptoms of distress, and resources for help.
- Understanding that not all military children have the same resources and that there is not a "one-size-fits-all" solution. For example, the resources available to active and reserve component families may differ. Helping civilian professionals to understand what military services *are* available is a training priority.

## 1.3 Session 3: Single Service Members

This session was moderated by Shelley MacDermid Wadsworth, Ph.D., director of the Military Family Research Institute. Pat Raskin, Ph.D., associate professor emerita at Columbia University acted as discussant. Several of the chapters in this section give special attention to issues particularly relevant to women.

Kristin Mattocks, a VA researcher who focuses on women in the military and issues specific to lesbian women, provides in Chap. 9 an historical overview of women's contributions to the military. During World War II, 350,000 women served, and more recently, despite combat exclusion rules, three-quarters of the women deployed to Iraq were exposed to one or more combat experiences. During Operation Iraqi Freedom and Operation Enduring Freedom, 200 female service members were killed. Women veterans now comprise the fastest-growing group of patients in the VA health care population.

Although the VA is working to expand access and eliminate barriers to care for women, there is still considerable variability in the availability of advanced gynecological services. Increasingly, VA medical centers provide services for pregnancy—which can be associated with mental health conditions—as well as care for infertility and diagnoses and treatment of gynecological cancers. In addition, women are at greater risk of gender-based violence than men—about 15–20 % of women screen positive for military sexual trauma—posing additional challenges for health care systems. As a result, many women become patients of both VA and non-VA providers

Another group within the veteran population comprises sexual and gender minority veterans. In the military, the gay and lesbian population is thought to comprise about 2.8 % of the force or about 66,000 service members at any one time. Although most service members discharged under the Don't Ask Don't Tell rule were discharged honorably and thus are eligible for VA care, there is no mechanism for documenting them when they come to the VA, and most do not disclose their status. They thus remain invisible within the VA population. Sexual or gender minority status is a risk factor for some specific health concerns. Mattocks discusses research documenting perceptions by some veterans that VA care is not welcoming and who, as a result, avoid it.

In Chap. 10, Susanne Gibbons focuses specifically on single service members who serve as health care providers, a group that is also predominated by women. Despite their primary roles as noncombatants, health care providers can be exposed to many traumatic situations, including rescuing wounded service members from combat situations, responding to life threatening injuries, and providing care for severely wounded service members. Circumstances appear to be more challenging for enlisted service members, possibly because of younger age or financial concerns; and for single service members, who may lack social supports. Men are more likely to report relationship conflict, but women are more likely to experience divorce or separation, and to report hazardous drinking. Social support can be challenging for health care providers because of the lack of a peer group during deployments, especially for those at higher pay grades and those deploying as individual augmentees. A disproportionate number of single health care providers are African American women, who may experience elevated risk for poorer physical, functional, and mental health well-being as a result of gender and racial disparities.

Turning to another aspect of military service, in Chap. 11 Foran and colleagues examine the role of marital status, parental status, and gender in rates of mental health problems and intimate partner violence in the military. Given the minority

status of women and the concentration of dual military marriages among women, it is reasonable to expect gender differences in patterns of mental health and intimate partner violence. In addition, women are more likely to experience sexual assault but less likely to experience combat. After demographic controls, analyses showed that being unmarried was a risk factor for men but protective for women. Specifically, while single men were more likely than married men to perpetrate or be victimized by intimate partner violence, married women were at greater risk. Fatherhood reduced the risk of IPV among married but not single fathers. Other factors lowering the risk of IPV among men include greater satisfaction with their relationships and the organization, as well as greater support from leadership. Results of existing literature indicate mixed results regarding gender differences in stigma and barriers to care. Single service members report more barriers to care than married service members. Recommendations included longitudinal studies of women in particular, and prevention and intervention studies tailored by gender.

In Chap. 12, Stander and colleagues delve into another highly gendered experience: the issue of prior adverse experiences, specifically childhood sexual abuse, among Navy recruits. Interest in early life experiences has grown given evidence that later risks for both PTSD and suicide appear to be meaningfully tied to those as well as to combat experiences. Results of a program of research on Navy recruits have shown that cumulative exposure to trauma is meaningful, especially childhood sexual abuse experienced by women. These prior experiences have been found to predict attrition from the military as well as later perpetration by men and victimization of women.

One of the challenges in understanding early abuse experiences is how best to operationalize severity. The researchers developed a taxonomy with which to classify relationships between perpetrators and victims in terms of intimacy, power, and the cultural violation represented by the abuse. For example, abuse by a parental figure may constitute a more severe cultural violation than abuse by peers. Utility of the new classification was studied in the Navy Survey of Recruit Behavior, focusing on characteristics of the abuse and the perpetrator in relation to symptoms of PTSD, suicidal plans and attempts, and substance abuse among victims. Results suggested that the presence of threats or force constituted high severity regardless of relationship factors, but that when threats or force were not present, relationship factors did matter, particularly the case for men. In general, however, a simple two-level classification indicating the presence or absence of incest appeared to be just as useful and more parsimonious than a more elaborate taxonomy. As the first to consider cultural violation as an element of sexual abuse, this study contributes to existing scholarly debates about how best to define severity.

Following the research presentations, the working groups considered strategic questions about priorities for research and training. Regarding research, attendees considered the following question: ***Sexual assault and access to combat jobs are two issues recently in the news that are uniquely relevant to women serving in the military. What are the most urgent research questions pertaining to women serving in the military—particularly women without partners?*** Following a structured discussion, attendees reviewed all responses provided and were given an

opportunity to endorse those they felt should become a recommendation from the group. The most-endorsed research questions were:

- What are protective factors for women without partners? What seems to aid female service members in remaining psychologically healthy and *not* being sexually traumatized?
- Is there a difference in the characteristics of women in combat vs. non-combat jobs? Is this related to differences in exposure to assault?
- Do we have an understanding of the social mindset and attitudes of men in the military?
- Why do women join, remain in, or leave the military, and at what cost?

Regarding training, attendees considered the following question: ***Given the long-standing and seemingly intractable problem of sexual abuse in the military, what content should be added to military training?*** Following the structured discussion, the most-endorsed training priorities were:

- Training early in service members' careers—as soon as basic training or even during delayed entry. Leadership development starts early.
- Reframing military sexual trauma in units as a factor in the effectiveness of the unit. (For example, violation of trust as a basis for termination of service, because violation of trust due to perpetrating military sexual trauma reduces unit effectiveness.)
- Explore ways other than "direct training" to achieve goals (e.g., modelling by leaders, better screening at entry, military community support)

## 1.4 Session 4: Family Sequelae of Wounds and Injuries

This session was moderated by Elaine Willerton, Ph.D., of the Military Family Research Institute. A policy and program update was delivered by Captain Wanda Finch, LCSW, CAS, the family and community program manager at the Deployment Health Clinical Center at the Defense Centers. Dr. Linda Nichols, health services researcher at the Memphis Veterans Affairs Medical Center and professor at the University of Tennessee Health Science Center was the discussant.

In Chap. 13, Nelson, Abraham, Miller, Kees, Walters, Valenstein, and Zivin consider employment among National Guard members in the aftermath of deployment, particularly in relation to mental health issues. For reserve component service members, return to productive employment is an important element of successful transitions to civilian life, not only because it contributes to families' financial security but also because unemployment can compromise psychological health and marital quality and stability. Although unemployment rates are similar between veterans and nonveterans overall, the discrepancies are largest among young veterans—about 6 percentage points among veterans aged 18–24 when this chapter was written. Overall, employment outcomes tend to be better among veterans who are older, white, male, and those who completed their service contracts

or retired from military service. Deployment experiences do not appear to be strongly linked to employment patterns, but rates of employment do tend to be lower among veterans experiencing depression, PTSD, substance use or severe mental illnesses than among veterans not experiencing symptoms. Female veterans face additional complexities because when they have children they are often responsible for providing or arranging for child care and other support for their children. Members of the reserve component also face challenges in maintaining stable employment given wartime deployments, leading in some cases to financial problems.

With regard to employment services, evidence suggests that only about one in four veterans with new mental health problems and documented needs for employment services were offered those services. Among veterans with psychiatric diagnoses, several studies indicate that fewer than 5 % receive employment services.

Recommendations include greater attention to the needs of subgroups with specific employment challenges, and the implementation of a tiered intervention system with strategies targeting employers (primary), employees (secondary), and treatment/rehabilitation (tertiary).

Another international research group, Sanela Dursun and Julie Coulthard, representing Canada, in Chap. 14 describe the results of a study of families of Canadian Defence Forces personnel who had experienced physical and/or psychological injuries. They were particularly interested in service members' perceptions of social support from their spouses, both in terms of how available they perceived it to be and how much they actually received, as well as the quality of marital relationships between service members and spouses. Both emotional and instrumental supports were considered. Social support is particularly important for injured personnel because isolation can exacerbate symptoms of traumatic stress and other psychological problems. For injured service members, favorable outcomes may depend at least in part on the health of their relationships. For spouses, caregiving can be a risk for personal and relationship distress.

The results of semi-structured personal interviews with 117 service members showed that direct provision of support was helpful when present and harmful when absent; this was true for both instrumental and emotional support. Indirect support—such as when spouses help to recognize problems and bring them to the attention of the service member—was also important. Challenges for couples that could interfere with exchanges of support included service members sometimes withholding information or acting angry or detached, making spouses apprehensive about the subsequent discussions and interfering with intimacy between partners. The researchers argue that understanding by family members of deployment-related difficulties can be important for resilience, and that spouses are important participants in systems of care.

The purpose of the research presented by O'Connell and Rosenheck in Chap. 15 was to examine family networks of support among homeless veterans. While it might be tempting to assume that homeless veterans completely lack family support, existing evidence suggests that this may not be the case. Data came from a large study of 1,438 veterans participating in the Housing and Urban Development—Veterans

Affairs Supported Housing (HUD-VASH) program across the USA. All veterans had lived in a shelter or on the street for at least 30 days and had been diagnosed with a psychiatric or substance abuse disorder. One-third of the veterans had served in a war zone, and about 9 % had thought of suicide in the 30 days prior to data collection.

Although most of the veterans did not have spouses or partners, most did report support from family members or peers. Compared to persons with mental illness in a statewide study, veterans were more likely were more likely to perceive support as available from a larger number of peers but not family members, while community members were more likely to perceive support as available from a larger number of family members (but not peers). Veterans had less contact than community members with family, peers, or providers. Overall, homeless veterans reported smaller social networks than homeless nonveterans, but perceived greater availability of instrumental and emotional support.

Veterans with more support from family members or peers were more likely than those without to be employed, to be more satisfied with their finances, and to have alcohol or substance use problems, but less likely to have severe mental illness.

Veterans with support from family members were younger, more likely to be married, and tended to have experienced less frequent or prolonged homelessness. They had higher quality of life, were more satisfied with their living situation; and more likely to have at least one close person in their lives (99 % vs. 83 %) and higher ratings on all social network variables than those without

Those with support from peers received more income from benefits, but were more likely to have been arrested for minor crimes in the past 30 days and had more frequent contact with providers, In general, they were more satisfied with their social networks, but less satisfied with employment. The researchers speculated that in the absence of support from family, peers may be a helpful bridge to providers.

Homeless veterans with *both* family and peer support reported larger and more robust networks, with which they were more frequently in contact. For example, they were more likely to report that they could borrow money from someone in their network. They reported the best overall adjustment, and were the most satisfied with supports relative to veterans without family support.

Even homeless veterans with *neither* family or peer support were more likely than not to identify the presences of multiple family members in their close networks, and one third mentioned at least one peer. They also reported, however, the longest and largest number of periods of homelessness, the smallest social networks, less satisfaction with their own health and their relationships with others, and the poorest outcomes.

## 1.5 Discussion and Endorsements

Following the research presentations, the working groups considered strategic questions about priorities for research and training. Regarding research, attendees considered the following question: ***Much is already known about caregiving in the***

***general population. What don't we know about the consequences of and adjustment to, wounds and injuries in the military or veteran population that it is urgent to know?*** Following a structured discussion, attendees reviewed all responses provided and were given an opportunity to endorse those they felt should become a recommendation from the group. The most-endorsed research questions were:

- What stressors are imposed by having to care for service members or veterans with psychological health problems?
- What can we learn about non-partner/non-spouse/non-family caregivers?
- What challenges are unique to reserve component members?
- How do children interpret or make meaning of their own awareness of their family situation?

### *1.5.1 Training Question*

Regarding training, attendees considered the following question: ***Caregiving for a variety of injuries in military and veteran families will be an issue for many years. What should be the primary foci of training for behavioral health providers about caregiving and families? And what points should be addressed AFTER the primary ones have been addressed?*** Following the structured discussion, the most-endorsed training priorities were:

- Peer to peer support for finding resources and managing transitions.
- Coping strategies for partners themselves in addition to how to support the service member.
- Military culture training for caregivers and providers.
- Assessment skills to note caregiver burnout, mental health, and well-being.
- Training for providers to recognize counterproductive caregiving. (e.g., psychological abuse).

## 1.6 Conclusions

The goal of the MFRI International Research Symposium Series is to bring leading scholars together to produce collections of cutting-edge research and consensus proposals for future research and training regarding military and veteran families. Like its predecessors (documented in MacDermid & Riggs, 2010, 2013), the 2013 symposium presented new findings, generated lively discussion, and prompted active consideration of the nexus of research, practice, and policy going forward.

The chapters in this volume document substantial recent progress in understanding the implications of military service and wartime deployments for family life.

Researchers have moved well beyond descriptive questions to delve into testing hypotheses about how marital, parenting, and other processes work, particularly in families dealing with the consequences of wartime deployments. Attention to "microprocesses" is also growing. Rather than focusing on "characteristic" ways of being in families, greater understanding is being sought about the day to day interactions that define family life, and how those evolve over time.

Researchers also are paying greater attention to diversity within the military-connected population, identifying and studying subgroups of service members and veterans who previously have been invisible or poorly understood. Among these groups are female service members, sexual and gender minorities, health care workers, single service members, and others. Researchers also are paying more attention to family diversity, widening their lenses to incorporate extended families and others. These studies often reveal tensions and "rough spots" in the relationship between military service and personal or family needs. For example, performance standards in the military are becoming more gender-neutral, at the same time intensifying gender-specific (and family-relevant) health care concerns.

As the members of the population who served in OIF and OEF complete their military service, researchers are increasing their attention to veterans within communities, such as finding and sustaining employment in good jobs, rewarding community life, and productive contributions as citizens. In some cases, wartime deployments have long-term consequences for personal health or relationships, which also are receiving attention. Researchers are also moving beyond factors immediately associated deployment to consider factors occurring both long before and potentially long after deployment has ended.

As research questions become both more expansive and more nuanced, efforts are being made to increase the rigor of research designs. Calls are being made for greater use of longitudinal designs and designs incorporating comparison groups. These seem particularly important in relation to studies of children, in order to separate the effects of military-specific factors from those affecting all children.

As research produces more and more knowledge, it is important that new insights flow into training and practice settings. A few examples of training priorities identified by conference participants include helping practitioners to understand diversity within the military population; providing tools that can be used at home as well as in therapeutic settings; building strategies that help family members to connect with one another; and helping families to deal with long-term consequences of wounds and injuries.

The conference organizers are grateful to all of the scholars, practitioners, and policy professionals who participated in the meeting and discussions, as well as to the reviewers and authors who contributed to the preparation of this volume. We hope that its contents prove useful to others who share a passion for making a difference for families who serve.

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# Chapter 2
# Family-Related Experiences During Deployment and Their Role in the Postdeployment Mental Health of OEF/OIF Veterans

**Dawne Vogt, Alexandra Macdonald, and Tabatha Blount**

**Abstract** Military deployments often introduce a variety of family-related stressors for both service members and their family members. The purpose of this chapter is to summarize what is known about the effects of deployment, and associated family-related experiences during deployment, on service members and their families. Following a review of the existing literature, preliminary study findings are presented regarding the nature and consequences of deployment family experiences for the postdeployment health and adjustment of service members deployed in support of the recent wars in Afghanistan (Operation Enduring Freedom; OEF) and Iraq (Operation Iraqi Freedom; OIF). These findings, based on a nationally representative sample of 1,046 OEF/OIF

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veterans, revealed that contemporary war veterans experience a variety of both objective and subjective family stressors during deployment. In turn, these experiences, as well as deployment social support from loved ones, demonstrate unique relationships with a variety of postdeployment mental health and adjustment outcomes. The chapter concludes with a discussion of future directions for research in this area, underscoring the need for additional prospective studies and more attention to the nature of family stressors experienced by family members.

**Keywords** Veterans • Military • Families • Deployment • Stressors • Children • Mental health

## 2.1 Background and Introduction

Military deployments often introduce a variety of family-related stressors for both service members and their family members. The purpose of this chapter is to summarize what is known about the effects of deployment, and associated family-related experiences during deployment, on service members and their families. Following a review of the existing literature, preliminary study findings are presented regarding the nature and consequences of deployment family experiences for the postdeployment health and adjustment of service members deployed in support of the recent wars in Afghanistan (Operation Enduring Freedom; OEF) and Iraq (Operation Iraqi Freedom; OIF).

### *2.1.1 Effects of Military Deployment on Service Members and Their Family Members*

Service members experience a variety of stressors during deployments which can put them at risk for mental health problems after deployment. For example, findings indicate that service members deployed in support of the recent wars in Afghanistan (Operation Enduring Freedom; OEF) and Iraq (Operation Iraqi Freedom; OIF) are at particular risk for posttraumatic stress disorder (PTSD) and depression (Hoge et al., 2004; Kang & Hyams, 2005; LaPierre, Schwegler, & LaBauve, 2007; Milliken, Auchterlonie, & Hoge, 2007). In a study of nearly 300,000 OEF/OIF veterans enrolled in the Veterans Administration (VA) health-care system, 37 % of the total sample had received a mental health diagnosis, with 22 % diagnosed with PTSD and 17 % diagnosed with depression (Seal et al., 2009). Slightly lower rates of probable PTSD and depression have been observed in broader OEF/OIF samples (i.e., samples that are not restricted to patient populations). For example, 14 % of a large nationally representative sample of OEF/OIF veterans met criteria for probable PTSD and the same proportion also screened positive for probable depression (Schell & Marshall, 2008).

Loved ones are also at risk for a variety of mental health problems after deployment. For example, Gorman, Blow, Ames, and Reed (2011) found that 22 % of National Guard spouses whose partners had recently returned from deployment reported symptoms of minor or major depression, 17 % reported symptoms of PTSD that indicated possible diagnosis, and 10 % reported suicidal ideation, rates that are similar to what have been observed among service members who have experienced a recent deployment. Consistent with this perspective, in a landmark study of over 250,000 Army wives, Mansfield and colleagues (2010) found that women whose husbands were currently deployed received more diagnoses of depressive disorders, sleep disorders, anxiety, acute stress reaction, and adjustment disorders compared with wives of military personnel who were not deployed. Similarly, another recent study found that female partners of deployed or recently returned active duty service members reported significantly elevated levels of depression and anxiety relative to community norms (Lester et al., 2010). It is noteworthy, however, that these women reported lower rates of anxiety, though not depression, compared with partners of currently deployed service members, suggesting that partner anxiety may lessen following the service members' return home, whereas depression may continue postdeployment.

Findings also indicate that deployments increase risk for mental health and behavioral problems among children of service members, and that a major mechanism for this may be the impact that they have on family stability (Sheppard, Malatras, & Israel, 2010). This is a significant concern given that 44 % of US service members have children (Department of Defense, 2011), and more than 700,000 children have experienced at least one OEF/OIF parental deployment since 2001 (IOM, 2013). While military child dependents generally demonstrate considerable resilience (for review, see Park, 2011), findings indicate that during periods of war children of deployed service members experience increased risk of dysfunction (Flake, Davis, Johnson, & Middleton, 2009). In particular, results suggest that deployment is associated with increased internalizing and externalizing symptoms, impaired school functioning, and disrupted interpersonal relationships among military dependents (e.g., Chandra, Martin, Hawkins, & Richardson, 2010; Lester et al., 2010). Furthermore, parental OEF/OIF deployment has been found to be related to increased utilization of specialty office visits and antidepressant and anti-anxiety medication use among dependents (Larson et al., 2012). Importantly, however, the effects of deployment on offspring differ based on the developmental age of the child and the phase of the deployment cycle, and may be mitigated by both intrapersonal (e.g., child temperament, attachment) and interpersonal (e.g., parent–child relationships, parenting practices, community support) factors (for reviews, see Flake et al., 2009; Maholmes, 2012; Palmer, 2008; Sheppard et al., 2010). With regard to the latter, it is important to note that child functioning is strongly associated with parental functioning, particularly that of the non-deployed parent (Barker & Berry, 2009; Flake et al., 2009; Lester et al., 2010). There is also some evidence that risk for poor child mental health outcomes is increased when deployed parents return with combat-related psychological injuries such as PTSD (for review, see Galovski & Lyons, 2004).

Given these findings, it is not surprising that there is evidence that deployments may strain service members' connections with family members and loved ones back home and, in some instances, lead to the dissolution of intimate partner relationships (Negrusa, Negrusa, & Hosek, 2014; Sheppard et al., 2010). This is an important concern, given that slightly more than half of all military members report being married (Segal & Segal, 2004). Consistent with this perspective, the authors of a large epidemiological study of recently returned Iraq War veterans found increased reports of interpersonal relationship distress over time (Milliken et al., 2007), with a fourfold increase in these problems from the first to the second assessment that was implemented 6 months later. Notably, interpersonal problems outpaced the rise in individual mental health problems over time. Another study that focused specifically on OEF/OIF veterans with mental health problems found that more than three-quarters of married/partnered service members reported family difficulties with partners or children after deployment (Sayers, Farrow, Ross, & Oslin, 2009), suggesting that the impact of deployment stress on service members' postdeployment mental health may be a mechanism through which deployment impacts postdeployment family functioning.

Other studies, however, have found that deployment, in and of itself, is not a consistent predictor of relationship distress. For example, Karney and Crown (2007) found inconsistent results regarding deployment as a risk factor for marriage dissolution. Similarly, Allen, Rhoades, Stanley, and Markman (2010) found that relationship functioning did not differ based on deployment status in a sample of married couples in which the husband was an active duty service member in the Army. Another study (Newby et al., 2005) reached similar conclusions, with results indicating that only 11 % of service members reported a worsening of marital relationships during deployment and 9 % indicated that deployment actually led to an *improvement* in their relationship with their spouse. These mixed findings suggest the need for additional research to better understand factors that may mediate and/or moderate the relationship between deployment and family functioning.

### *2.1.2 Deployment Stressors and the Role of Family Experiences*

Research suggests that a variety of deployment-related stressors contribute to the risk of postdeployment mental health and relationship problems among service members and their families. Most research to date has focused on the role of combat-related stressors in service members' postdeployment well-being, with findings indicating that increased combat exposure is associated with greater risk for postdeployment mental health problems, including especially PTSD (Hoge, Auchterlone, & Milliken, 2006; Kang & Hyams, 2005; Pietrzak, Whealin, Stotzer, Goldstein, & Southwick, 2011). Other combat-related stressors, including high levels of perceived threat, exposure to the aftermath of battle, and lower level stressors characteristic of living and working in a war zone, have also been found to

increase risk for PTSD and other negative mental health sequelae within this cohort (e.g., Vasterling et al., 2010; Vogt et al., 2011). Findings also suggest that interpersonal stressors experienced during deployment may contribute to risk for poor postdeployment outcomes. For example, in a recent study of OEF/OIF veterans, Street, Gradus, Giasson, Vogt, and Resick (2013) found that exposure to harassment during deployment increased risk for posttraumatic stress symptomatology and another study found that lack of deployment unit support was associated with an increase in the risk for both post-deployment PTSD and depression among OEF/OIF veterans (Pietrzak et al., 2010).

Less research is available on service members' family experiences during deployment. This is unfortunate given that the recent wars in Iraq and Afghanistan have been characterized by more frequent and lengthy family separations as compared to prior wars (Cozza, 2011). Moreover, advances in technology now allow for much greater communication between deployed service members and their family members at home, which has the potential to enhance both the impact and immediacy of family-related stressors for deployed service members (La Bash, Vogt, King, & King 2009; Sheppard et al., 2010). As such, deployed service members may experience a range of family stressors during deployment, including concerns about the well-being of family members at home, as well as exposure to more objective family stressors, such as experiencing a conflict with a family member. Consistent with this perspective, the research that has been done so far suggests that these kinds of family-related stressors may have a powerful impact on the post-deployment mental health of service members. For example, Vasterling and her colleagues (2010) found that home-front concerns predicted pre-to-post-deployment increases in PTSD symptoms among active duty soldiers. Similarly, Vogt and colleagues (2011) found that relationship concerns during deployment contributed significant variance in the prediction of posttraumatic stress symptomatology above and beyond exposure to warfare and perceived threat in another sample of OEF/OIF veterans.

Family members also experience a range of stressors as they struggle to adapt to new roles and responsibilities during the service members' absence. For example, studies have shown that military spouses report concerns about growing apart from their deployed partner and stress related to taking on additional household and childcare responsibilities (Chandra et al., 2011). Even in peacetime, children of service members face potential stressors, including frequent relocations, periods of parental absence, and separation from extended family. These challenges may be amplified during deployments, with adolescents who experience a parental deployment reporting stress associated with increased safety concerns, greater family responsibilities (e.g., housework; care for younger siblings), changes in family routine and processes, and parental absence during important events (Mmari, Roche, Sudhinaraset, & Blum, 2009). Family members may also experience concern for their loved ones' well-being, especially when presented with media coverage related to the deployment. Moreover, deployments can sometimes be extended with little notice, and findings indicate that this increases the risk for spousal mental health problems (SteelFisher, Zaslavsky, & Blendon, 2008).

## 2.2 Current Study

One factor that may explain, at least in part, why family-related stressors have received less attention in the deployment health literature is the lack of validated measures to assess these factors. To promote additional attention to the important role that family plays in service members' deployment experiences, the widely used Deployment Risk and Resilience Inventory (DRRI; King, King, Vogt, Knight, & Samper, 2006) was recently revisited to enhance the coverage of family-related factors across the deployment cycle (DRRI-2; Vogt, Smith, King, King, Knight, & Vasterling, 2013). This revision entailed both developing new measures and updating existing measures of family-related risk and resilience factors during deployment. For example, an existing measure of concerns about life and family disruptions was elaborated to better capture a range of family-related concerns that service members experience during deployment. This more subjective measure was supplemented with a new measure that addresses exposure to a variety of objective family stressors during deployment. In addition, a measure of deployment social support from family and friends was developed to complement an existing measure of unit social support that addresses support from other unit members and unit leaders. Results based on the administration of these family-related measures to a large national sample of OEF/OIF veterans are presented below. The primary aims of this research were to evaluate the frequency with which veterans report experiencing various family-related experiences during deployment, and to examine their relationship with a variety of postdeployment mental health and adjustment outcomes for OEF/OIF Veterans.

### *2.2.1 Method*

#### 2.2.1.1 Procedure and Participants

This study used an observational research design. We identified a random sample of 3,053 potential participants from a DoD Defense Manpower Data Center (DMDC) roster of OEF/OIF veterans who had returned from deployment and separated from service within the last 2 years (2008–2010). Of the 2662 potential participants who were likely to have received the mailing (i.e., mail was not returned as undeliverable), 84 declined participation by returning an opt-out letter. We received completed surveys from 1,046 veterans (53 % female, 47 % male), yielding a response rate of 39 %. During their most recent deployment, 66 % of participants reported serving in support of OIF, and 34 % served in support of OEF. About half of the sample (51 %) reported having been deployed to Iraq or Afghanistan at least twice. Slightly more than half (57 %) were deployed from Active Duty and 43 % were deployed from the National Guard or Reserves. All branches of the service were represented, with about two-thirds in the Army (65 %). Nearly three-quarters of the sample (75 %) identified as White, 14 % as Black, and 12 % as Hispanic. The mean age of

participants at the time of survey completion was 35. Survey responders were compared to non-responders on demographic and military characteristics drawn from DMDC to explore the potential for non-response bias. Overall, findings revealed few differences and those that were observed were generally small and unlikely to influence the specific associations under examination. Specifically, differences between responders and nonresponders were small with regard to gender (Cramer's $V=0.06$), age ($r=0.18$), race (Cramer's $V=0.04$), military branch (Cramer's $V=0.04$), and deployment component (Cramer's $V=0.06$).

#### 2.2.1.2 Measures

Scales were included to address both deployment family-related experiences and postdeployment mental health.

*Deployment family stressors*. This DRRI-2 measure (Vogt et al., 2013) assesses exposure to stressful family events during deployment, including experiences such as family adjustment issues, infidelity, and family financial problems. This index of family stressors uses a dichotomous yes/no response format.

*Deployment family concerns*. This subset of relationship-focused items from the DRRI-2 Concerns about Life and Family Disruptions measure (Vogt et al., 2013) assesses subjective concerns about loved ones and family relationships during deployment. Items are rated on a 4-point Likert response format (1 = *Not at all*; 4 = *A great deal*, with an additional option of 0 = *Not applicable*). In scoring this measure, responses of "*Not applicable*" were combined with responses of "*Not at all*". Coefficient alpha for this scale was 0.90 in this sample.

*Deployment social support from family and friends*. This DRRI-2 measure (Vogt et al., 2013) assesses the extent to which an individual perceived that they received adequate levels of emotional sustenance and instrumental assistance from family and friends during deployment. Emotional sustenance refers to the extent to which others provide the individual with understanding, companionship, a sense of belonging, and positive self-regard (e.g., feeling cared for by family members and friends, having people to talk to about problems). Instrumental assistance refers to the extent to which the individual receives tangible aid such as help to accomplish tasks and material assistance or resources (e.g., being able to count on people to take care of finances or belongings while deployed). Coefficient alpha for this scale was 0.92 in this sample.

*PTSD symptom severity*. The military version of the 17-item PTSD Checklist (PCL-M; Blanchard, Jones-Alexander, Buckley, & Forneris, 1996; Weathers, Litz, Herman, Huska, & Keane, 1993) requires participants to indicate the degree to which they had been bothered by 17 PTSD symptoms using a 5-point response format (1 = *not at all* to 5 = *extremely*). Participants were instructed to think about the event or events that were most disturbing during deployment, and respond to statements about experiences or feelings they had in the last 3 months. Coefficient alpha for this scale was 0.96 in this sample.

*Depression symptom severity*. An adapted version of the seven-item Beck Depression Inventory-Primary Care (Beck, Guth, Steer, & Ball, 1997) was used to index depression symptoms. This measure consists of seven statements extracted from the original Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) but with a variation in the response format. Sample items are "In the last 3 months, I have felt like a failure" and "In the last 3 months, I have had thoughts of killing myself." Unlike the original Beck instrument, each item is rated on a 5-point scale with anchors ranging from 1 = *Strongly disagree* to 5 = *Strongly agree*. Scores on the original Beck Depression Inventory have correlated well with clinician's judgment of depression intensity (Beck, Steer, & Garbin, 1988). Coefficient alpha for this brief form of the measure is 0.90.

*Alcohol abuse*. The CAGE (Ewing, 1984) is a four-item questionnaire that assesses the presence of clinically significant alcohol use. Items were referenced to the last 3 months and addressed whether individuals felt they should cut down on their drinking, were annoyed by being criticized for their drinking, ever felt bad or guilty about their drinking, and had a drink first thing in the morning. Coefficient alpha was 0.71 in the current sample.

*Life satisfaction*. The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) is a five-item measure of global life satisfaction that uses a 7-point Likert response format ranging from 1 (strongly disagree) to 7 (strongly agree), with high scores reflecting greater life satisfaction. Coefficient alpha was 0.92 in the current sample.

*Postdeployment family functioning*. This DRRI-2 measure (Vogt et al., 2013) assesses perceived quality of postdeployment family relationships in terms of communication (e.g., getting along well with family members), and closeness (e.g., being affectionate with family members) among family members. Coefficient alpha for this scale was 0.96 in this sample.

#### 2.2.1.3 Analyses

Our first set of analyses involved examining item-level results for each of the three deployment-related family factors, which are presented in Table 2.1. For the family stressors scale, we present the percentage of the sample that endorsed each stressor in the scale. For the family concerns scale, we report the percentage of the sample that endorsed a moderate or high level of concern versus not applicable, no concern, or a modest level of concern about each potential stressor. Results are presented for the full sample, and where appropriate, separate results are presented in parentheses for subgroups for whom individual items were most relevant (i.e., those individuals who were living with a partner or who had children at the time of deployment). For the measure of social support from family and friends, proportions are presented for three categories: the percentage of the sample that indicated that they somewhat or strongly agree, somewhat or strongly disagree, or neither agree nor disagree with scale items.

**Table 2.1** Reported family stressors during deployment

| | Yes (%) | No (%) |
|---|---|---|
| A family member or other loved one had serious difficulty adjusting to my absence. | 34 | 66 |
| Someone close to me experienced a serious illness, injury, or mental health problem. | 32 | 68 |
| I had problems getting in touch with a family member or other loved one. | 29 | 71 |
| I learned that a loved one was doing things I disapproved of. | 25 | 75 |
| A family member or other loved one passed away. | 25 | 75 |
| I had a major conflict with a family member or other loved one. | 22 | 78 |
| My family had money problems. | 21 | 79 |
| My relationship with a spouse or significant other ended. | 20 | 80 |
| A spouse or significant other cheated on me. | 16 | 85 |
| A family member or other person I trusted wasted or mismanaged my money. | 16 | 84 |
| A family member got into trouble at home, at school, or in the community. | 16 | 84 |
| A spouse or significant other suspected that I had cheated on him/her. | 14 | 86 |
| A family member or other loved one participated in dangerous military duties. | 12 | 88 |
| My family's home and/or belongings were stolen. | 4 | 96 |

*Note*. Ns ranged from 1,029 to 1,036

A next set of analyses examined correlations between family-related factors and indices of veterans' postdeployment mental health and well-being, including PTSD symptom severity, depression severity, alcohol abuse, life satisfaction, and family functioning. These analyses were followed by a final set of multiple regression analyses that isolated unique associations between each of the family-related factors and postdeployment measures of mental health and adjustment. For each outcome, a separate standard multiple regression analysis was conducted with each of the three family factors entered simultaneously.

## *2.2.2 Results*

### 2.2.2.1 Family-Related Experiences Reported During Deployment

Tables 2.1, 2.2, and 2.3 present an item-level examination of the frequency with which OEF/OIF veterans reported various family-related events and circumstances in each of the three deployment-related family scales. As indicated in Table 2.1, the most highly endorsed family stressors were having a family member or other loved one experience serious difficulty adjusting to one's absence and having a loved one experience a serious illness, injury, or mental health problem during the

**Table 2.2** Reported family concerns during deployment

| | Moderate or high level of concern (%) | Not applicable, not at all, or a little bit of concern (%) |
|---|---|---|
| I was concerned about being unable to help my family if there was some kind of crisis or emergency. | 60 | 40 |
| I was concerned about missing important family events at home such as birthdays, weddings, funerals, graduations | 58 | 42 |
| I was concerned about the effect of the deployment on my relationship with my spouse or significant other. | 44 (55) | 66 (45) |
| I was concerned about the safety and well-being of my spouse or significant other. | 41 (58) | 59 (42) |
| I was concerned about my family's ability to cope with the stress of the deployment. | 43 | 57 |
| I was concerned about my inability to directly manage or control family affairs. | 37 | 63 |
| I was concerned about missing out on my children's growth and development. | 34 (80) | 66 (20) |
| I was concerned about the safety and well-being of my child(ren). | 30 (68) | 70 (32) |
| I was concerned about the effect of deployment on my relationship with my child(ren). | 25 (58) | 75 (42) |
| I was concerned about my spouse or significant other's ability to manage the household. | 23 (24) | 77 (76) |
| I was concerned about being cheated on by my spouse or significant other. | 20 (23) | 80 (77) |
| I was concerned about my family's financial situation. | 20 | 80 |
| I was concerned about the care that my child(ren) or other dependents were receiving. | 17 (36) | 83 (64) |

*Note*. Ns ranged from 1,029 to 1,036; percentages presented in parentheses reflect results for subgroups of partnered veterans or parents, as relevant

deployment. Other highly endorsed experiences included having trouble getting in touch with family members or other loved ones, learning that a loved one was doing things that the service member disapproved of, and having a family member or loved one pass away during the deployment.

Along with these more objective stressor events, OEF/OIF veterans reported a range of family-related concerns during deployment. As indicated in Table 2.2, common concerns included worry about being unable to help one's family in the event of an emergency and missing out on important family events such as birthdays and weddings. OEF/OIF veterans also reported a relatively high level of concern about the well-being of their spouse or significant other, especially with regard to their ability to cope with the stress of the deployment. Of note, these concerns were

**Table 2.3** Perceived social support from family and friends during deployment

| | Somewhat or strongly agree (%) | Neither agree nor disagree (%) | Somewhat or strongly disagree (%) |
|---|---|---|---|
| Family members and/or friends at home were sincerely interested in hearing what was going on with me. | 86 | 9 | 5 |
| People at home did things to show they cared about me. | 84 | 9 | 7 |
| I was happy with the amount of support I received from people at home. | 82 | 10 | 8 |
| Relatives or friends at home could be counted on to look out for the well-being of my family or other dependents (including pets). | 80 | 12 | 8 |
| Relatives or friends at home could be counted on to take care of my finances, property, or belongings if needed. | 76 | 11 | 13 |
| I was happy with the amount of communication I received from people at home. | 76 | 10 | 14 |
| I had family members or friends at home I could talk to when I had a problem. | 76 | 12 | 12 |
| I could count on family members or friends at home for good advice. | 72 | 17 | 11 |

*Note*. Ns ranged from 1,035 to 1,041

even more prominent when the sample was restricted to veterans who reported living with a spouse or significant other at the time of deployment (55 % of the sample). For example, 59 % of partnered veterans reported being concerned about the safety and well-being of their spouses/significant others and 55 % reported being concerned about the effect of the deployment on these romantic relationships. Concerns related to children were also common, though reported less frequently than concerns about spouses/significant others, which is to be expected given that a substantial proportion of study participants indicated that they were not parents at the time of deployment (60 %). Just as for the items about spouses/significant others, levels of concern were higher when analyses were restricted to only those veterans who reported being parents at the time of deployment. For example, among parents, 80 % and 68 % respectively reported experiencing a moderate or high level of concern about missing out on their children's growth and development and being concerned about the safety and well-being of their children.

Turning to deployment social support results, findings revealed that most OEF/OIF veterans reported a high level of support from family and friends. As indicated in Table 2.3, the vast majority of participants reported that they were happy with the amount of support they received from family and friends at home, and that relatives and friends could be counted on to look out for the well-being of their family and

**Table 2.4** Bivariate correlations between deployment family-related factors and indices of postdeployment mental health and adjustment

| | PTSD severity | Depression severity | Alcohol abuse severity | Life satisfaction | Family functioning |
|---|---|---|---|---|---|
| Family stressors | 0.40* | 0.34* | 0.15* | −0.30* | −0.24* |
| Family concerns | 0.29* | 0.24* | 0.07* | −0.17* | −0.01 |
| Lack of support from family/friends | 0.35* | 0.35* | 0.09* | −0.44* | −0.58* |

*Note*. *$p < 0.05$; Ns ranged from 987 to 1037

other dependents. More than three-quarters of OEF/OIF veterans also reported that people at home did things to show they cared and that they were happy with the amount of communication they received from people at home.

#### 2.2.2.2 Family-Related Experiences Associated with Postdeployment Mental Health and Adjustment

As indicated in Table 2.4, bivariate analyses revealed that family-related experiences were associated with a variety of indices of postdeployment mental health and adjustment among OEF/OIF veterans. Associations with mental health indices (PTSD and depression symptom severity) were in the expected direction, such that higher levels of reported exposure to deployment family stressors were positively related to mental health problems after return from deployment, and these effects were in the moderate range. Family-related stressors were also associated with postdeployment alcohol abuse, though these effects were small. In addition, OEF/OIF veterans who experienced greater family stress during deployment generally reported lower life satisfaction and poorer family functioning after deployment. Overall, associations appeared to be greatest for objective family stressors and lack of social support as compared to family concerns, with most effects in the moderate range. Of note, subjective family concerns were not associated with veterans' reports of family functioning after deployment, while both objective family stressors and perceived lack of perceived support from family and friends were.

To evaluate the extent to which family factors were uniquely related to postdeployment mental health and adjustment, a final series of multiple regressions were conducted for each postdeployment outcome. These results are reported in Table 2.5. As indicated in this table, family factors contributed unique variance in predicting postdeployment outcomes, with a few exceptions. Of note, only objective family stressors were associated with postdeployment alcohol abuse; neither family concerns nor perceived social support from family and friends demonstrated a significant relationship with alcohol abuse severity. Just as for the bivariate correlation results, effects appeared somewhat larger for the objective stressor and social support measures relative to the family concerns measure, and the effects that were observed for alcohol abuse severity were more modest than that observed for other postdeployment outcomes.

**Table 2.5** Multiple regressions between family-related factors and postdeployment mental health and adjustment

| | *B* | SE *B* | *β* | *t* |
|---|---|---|---|---|
| PTSD symptom severity<br>$R=0.47$, $R^2=0.22$, $F(3,967)=91.99$* | | | | |
| Family stressors | 1.63 | 0.23 | 0.25 | 7.15* |
| Family concerns | 0.24 | 0.06 | 0.13 | 4.05* |
| Lack of support from family/friends | 0.61 | 0.08 | 0.24 | 7.70* |
| Depression symptom severity<br>$R=0.43$, $R^2=0.18$, $F(3,971)=71.82$* | | | | |
| Family stressors | 0.60 | 0.10 | 0.21 | 5.97* |
| Family concerns | 0.08 | 0.03 | 0.09 | 2.83* |
| Lack of support from family/friends | 0.28 | 0.04 | 0.25 | 8.00* |
| Alcohol abuse severity<br>$R=0.16$, $R^2=0.03$, $F(3,992)=8.42$* | | | | |
| Step 1 | | | | |
| Family stressors | 0.04 | 0.01 | 0.14 | 3.56* |
| Family concerns | 0.00 | 0.00 | 0.00 | 0.01 |
| Lack of support from family/friends | 0.01 | 0.00 | 0.04 | 0.22 |
| Life satisfaction<br>$R=0.47$, $R^2=0.22$, $F(3,982)=90.06$* | | | | |
| Family stressors | –0.29 | 0.07 | –0.14 | –3.93* |
| Family concerns | –0.04 | 0.02 | –0.06 | –1.79 |
| Lack of support from family/friends | –0.32 | 0.03 | –0.38 | –12.30* |
| Family functioning<br>$R=0.59$, $R^2=0.35$, $F(3,980)=173.95$* | | | | |
| Family stressors | –0.35 | 0.13 | –0.08 | –2.64* |
| Family concerns | –0.14 | 0.04 | –0.11 | –3.85* |
| Lack of support from family/friends | –0.94 | 0.05 | –0.57 | –20.21* |

*Note*. *$p<0.05$

## 2.3 Discussion

The results of this study provide insight into the family-related stressors that contemporary veteran cohorts experience during deployment and the impact that these events may have on their postdeployment readjustment. As noted in our review of the broader literature, while the literature on combat-related stressors experienced by deployed service members is fairly well-developed, less is known about service members' family experiences during deployment. The findings of the current study indicate that OEF/OIF veterans experience a variety of both objective and subjective family stressors during deployment, which is not surprising given that many veterans of the recent wars in Iraq and Afghanistan have experienced prolonged and repeated deployments, which may both erode family

relationships and increase family stress. This is a particularly important finding given that these family concerns (both objective events and subjective worries) have the potential to interfere with service members' ability to focus on the deployment mission and may have a longer-term impact on their mental health and well-being after deployment. At the same time, results indicate that most veterans perceive a high level of support from family and friends. Together, these findings suggest that concern about family circumstances on the home front are a more salient issue for this cohort than perceptions regarding availability of social support from loved ones.

Another noteworthy finding is that OEF/OIF veterans appeared more likely to endorse subjective concerns about family-related events and circumstances than objective family stressors, suggesting that their concerns may exceed their actual experience of objective events. While this finding is tentative, given that direct comparisons were not possible, the potential mismatch between subjective concerns and actual events could be accounted for, at least in part, by poor quality communication with family members during deployment. As such, these findings may suggest the benefit of interventions aimed at enhancing the quality of deployment communication for service members and their spouse/partners. It may also be that the stress of living and working in a war zone contributes to heightened family concerns, suggesting the potential value of educational interventions focused on reality-checking and other strategies for managing family concerns that come up during deployment.

Not only were family-related stressors relatively common, but study findings revealed that these deployment factors may have unique and important effects on the postdeployment mental health and adjustment of OEF/OIF veterans that are generally similar in magnitude to what has been observed for combat-related stressors (e.g., Vogt et al., 2011). Particularly noteworthy in this regard were associations observed for both objective family stressors and perceived social support from family and friends. Subjective family concerns demonstrated a slightly smaller relationship with postdeployment outcomes, though it is important to note that they contributed unique variance in predicting outcomes, even after accounting for these other factors. These results suggest that a comprehensive understanding of family-related stress during deployment requires a consideration of both objective events and subjective concerns about what is going on at home, as well as perceptions of social support available from family members. More generally, these findings underscore the potential promise of predeployment programs that can work with service members and their families to develop a proactive plan for dealing with both objective and subjective family stressors that may come up during deployment. In particular, military families may benefit from learning how to utilize communication and problem-solving skills to address current as well as potential stressors throughout the deployment cycle. Given the concerns that service members endorsed experiencing during deployment, pre-deployment interventions that focus on ways to remain meaningfully involved in family life, from a distance, as well as strategies for coping with grief in a deployment setting may be particularly relevant.

## 2.4 Future Directions

The current study has limitations that should be addressed in future research. First and foremost, it is important to note that these study findings were based on cross-sectional data, which introduces the possibility of bidirectional relationships and limits the conclusions that can be drawn with respect to causality. For example, it is possible that current mental health status may influence recall of deployment experiences, contributing to enhanced associations among these variables. In addition, it is possible that service members who reported more family-related stressors during deployment also experienced strains in important relationships either before or after deployment, and observed relationships may have been influenced by these unmeasured characteristics. For example, objective family stressors during deployment, such as having a family member who is struggling with a physical or mental illness, may continue into the postdeployment period, whereas subjective concerns may be allayed upon returning home when presented with disconfirmatory evidence (e.g., the service member observed that the family was able to handle crises while she or he was deployed). In this case, the continuation of objective stressors after deployment may contribute to the stronger relationship between objective (as opposed to subjective) family stressors and postdeployment mental health problems. Therefore, future research with longitudinal assessments of predeployment, deployment, and postdeployment experiences are needed to enhance confidence in these study findings. Also important will be studies that can document the contribution of these factors to postdeployment well-being above and beyond combat-related stressors and other known predictors of postdeployment distress, as well as investigations of the interaction between family and combat stressors in the prediction of service members' postdeployment well-being. In addition, the finding that child-related concerns were so frequently reported by deployed parents in this study suggest the need for investigation of how these concerns influence mission readiness during deployment and parenting practices, couple's adjustment, and symptom maintenance (i.e., guilt-related cognitions) following deployment. The analyses presented in this study represent only a first step toward better understanding the role that deployment family-related stressors play in service members' well-being; more work is needed.

Another direction for future research relates to the deployment stressors experienced by family members and their impact on their postdeployment mental health and adjustment. While it is well-documented that family members are at risk for poor postdeployment outcomes, specific deployment-related risk factors for family members are still largely unknown. Not only is this research important to better address the needs of family members, but given that family members are often the first people from whom service members seek support, identifying and addressing deployment-related risk factors for family members may have the additional benefit of strengthening the service members' support network. A particularly useful avenue for future research will be the investigation of specific risk mechanisms through which deployment experiences impact the well-being of dependent children. While

previous studies have found that repeated military deployments can have a negative impact on the relationship between military dependents and the non-deployed parent, far less is understood about the mechanisms underlying this association. Findings in this area are critical to inform the development of effective interventions that can increase child and familial resilience through the deployment cycle.

Clearly, there is more work to be done in this area. It is our hope that the increased interest that researchers have recently shown in deployment-related family experiences and their impact on the postdeployment health and well-being of both service members and their families, along with the availability of new measures to assess family factors throughout the deployment cycle such as the DRRI-2, will lead to significant advances in our knowledge on this extremely important topic.

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# Chapter 3
# Deployment and Divorce: An In-Depth Analysis by Relevant Demographic and Military Characteristics

**Sebastian Negrusa, Brighita Negrusa, and James Hosek**

**Abstract** The purpose of this study is to provide an analysis of the link between deployments and divorces among military families by various groups of potential interest for policymakers. We contribute to the literature on the marital dynamics of military families by providing a multifaceted look at the effect of a stressor, deployment, on the stability of military families defined by race, education, branch, and number of deployments. We find that the effect of deployment on the hazard of divorce is similar by race. The effect differs by education and is strongest for high school graduates. We also find that pre-9/11 deployment increased the divorce hazard, and the effect of post-9/11 deployments on divorce was similar across military services. Finally, time spent in deployment before marriage increases the risk of divorce after marriage. Our work will potentially inform policymakers in designing effective interventions to help families to cope with the stresses of deployments, as we draw attention to the role of expectations, self-selection, and stress from separation.

**Keywords** Deployments • Divorce • Expectations at marriage • Self-selection • Stress • Groups of military families

## 3.1 Introduction

In the years following the 9/11 attacks, the frequency, length, and dangers of deployments exposed military families to extraordinary challenges. Many service members who were deployed to Iraq or Afghanistan now suffer from war-related

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psychological problems. Hoge et al. (2006) and Milliken et al. (2007) find a high prevalence of symptoms of post-traumatic stress disorder (PTSD), major depression and traumatic brain injury among recent military cohorts, while Tanielian and Jaycox (2008) document that one in five service members returning from deployments exhibit symptoms of PTSD and depression. Also, Cesur, Sabia, and Tekin (2013) identify a strong causal effect between combat exposure and mental health problems.

Many recent studies have focused on the mental and physical health of service members who had been deployed, and as a companion to that work our study addresses family functioning as revealed through marital instability, specifically, divorce. Geographic separation, daily stress from limited information, an inability to help from a distance, changes in the labor supply and familial responsibilities of the spouse at home, children's emotional and behavioral issues, as well as the deployed service member's exposure combat and consequences such as injury and PTSD, may ultimately increase the stress experienced by families before, during, and after deployments. High stress may be associated with, and might cause, decreases in family well being and marital satisfaction, in some cases leading to marital dissolution.

Negrusa et al. (2014) find that the probability of military family divorce increased with cumulative months of deployment. Compared with families formed after 9/11, the effect of post-9/11 deployment on divorce is larger for families formed before 9/11. The families formed before 9/11 might reasonably have expected lower deployment than in fact occurred throughout the decade after 9/11, whereas families formed after 9/11 had the opportunity to adjust their expectation of deployment upward, so the high pace of deployment may not have come as a surprise. Negrusa and Negrusa (2014) find that about 20 % of deployment-related divorces in the Army come from the post-deployment PTSD symptoms of returning service members.

In this chapter we extend our previous work to ask whether the effect of deployment on divorce differs between groups. We provide new estimates of differential deployment effects for groups defined by various demographic and military characteristics such as race, gender, education, or military service. This analysis attempts to deepen our understanding of how deployments affect the stability of military families. We precede the discussion of our new findings with a brief review of studies on the relationship between deployment and marital outcomes. We use the term deployment to refer to the extent of deployment, measured in quarters, coming from one or more deployments

## 3.2 Overview of Previous Literature

Negrusa et al. (2014) find that the wars in Iraq and Afghanistan were hard on military marriages, with the risk of divorce increasing directly in relation to deployment, i.e., to the total number of quarters deployed. The data in that study covered a

wide time frame, followed couples for a relatively long period after marriage, and differentiated between divorce risk before and after the 9/11 attacks and between couples wed before and after 9/11. The study used individual-level information from about 462,000 enlisted service members who married while serving in the military during the data timeframe of 1999–2008.

Using data from the Defense Manpower Data Center's (DMDC's) Proxy Perstempo file, Negrusa et al. (2014) specify a discrete hazard model where the divorce hazard is a function of deployment and other fixed and time-varying variables. Some individuals have multiple deployments, and the hazard model evaluates the impact on the divorce hazard in period *t* of deployment time accumulated up to period *t*. If the service member is deployed again after *t*, cumulative time deployed is updated to include that deployment time. The hazard model approach controls for the underlying change in divorce risk as time in marriage increases and deals naturally with the censoring, i.e., marriages that are intact at the end of the observation period but still at risk of divorce. The models include calendar quarter dummies that represent period baselines for the divorce hazard. These dummies account for time-varying unobserved factors that may affect divorce, such as variation in national-level military family policies and possible seasonal patterns in divorce. The DMDC longitudinal file, updated quarterly, has individual-level records on active-duty service members including information on time deployed, military occupation, education, pay grade, and AFQT score category.

Negrusa et al. (2014) present the coefficients from regression models that estimate: (1) the overall effect of deployment over the entire period considered, regardless of when the deployment occurred or the marriage formed; (2) the deployment effect by period, before versus after 9/11; and (3) the effect of post-9/11 deployment on marriages formed before versus after 9/11. They find that while any deployment increases the risk of divorce among military members, the negative consequences were higher for those married before 9/11 that deployed after 9/11. For instance, among couples married before the 9/11 attacks, those that experienced post-9/11 deployments of 12 months to Iraq or Afghanistan were 28 % more likely to divorce within 3 years of marriage as compared to peers with similar deployment lengths before the wars began. Further, the divorce risk was lower for couples married after 9/11 than for couples married before 9/11 that experienced post 9/11 deployments. Note that this does not refer to the deployment variable, but to the indicator for when a couple married. One hypothesis that may explain this finding is that couples that married after 9/11 were better prepared for the challenges posed by being married in the military—and likely to deploy—than those who married before the conflicts began. This is consistent with the notion that only the couples willing to accept the risks associated with military life went ahead to marry in the post-9/11 era.

Negrusa et al. (2014) also find a higher risk of divorce for hostile deployments than for non-hostile deployments, and for female service members than for male service members as a result of time in deployment. Cumulative deployment time may be more disruptive and harder to adjust to for couples where the service member is female. Data necessary to investigate the potential reasons for the differential deployment impacts by gender were not available.

The conceptual framework guiding Negrusa et al.'s (2014) interpretation of the family's response to deployment is based on the theory of marriage developed in Becker (1973), Becker (1974) and Becker, Landes, and Michael (1977). The main predictions are that the probability of marital dissolution is directly proportional to the intensity of unanticipated shocks experienced by the couple. Couples face uncertainty when they marry; they form expectations but cannot know the particular events that will be realized in the future. If these events are consistent with the couple's expectations at the time of marriage, the expected gains from marriage remain unchanged and marital stability is unaffected. However, if the events are negative, i.e., decrease the gains from marriage, the probability of divorce increases. In the case of military couples the length, conditions, and risks of the deployment are sources of shocks to the value of military marriages (Hosek, Kavanagh, & Miller, 2006). If deployments are longer and more dangerous than expected, the gains from marriage may be revised downward, increasing the probability of divorce. Deployment-related shocks include the higher stress within the family (from causes mentioned above) and its effect on health. Service members returning from deployments may suffer from post-deployment behavioral or physical problems, which may affect their married life. Deployments may perturb family life in other ways, like military spouses needing to increase their labor supply, take on more household responsibilities, watch family finances more closely, and do more housework and child care (Savych, 2008). Children in military families may become anxious or have emotional or behavioral issues (Chandra et al., 2011).

The findings of Negrusa et al. (2014) differ from Karney and Crown (2007), which finds that time deployed decreases divorce, the proposed reason being that deployment-related pay and military family support mechanisms strengthen military families during the deployment cycle. The study concludes that couples are resilient and that deployment-related benefits are enough to compensate for the negative aspects of deployment. The study's timeframe is limited, however, and may be too short to estimate a full deployment effect.

Angrist and Johnson (2000) use survey data from the First Gulf War and find that deployment increases the divorce rate of female service members but has no effect on the male rate. The stronger effect on females is consistent with the estimates by gender in Negrusa et al. (2014).

Negrusa et al. (2014) provide evidence that deployment affects the stability of military families but does not disentangle empirically the mechanisms through which deployments affect marriages. Another study, Negrusa and Negrusa (2014), attempted to fill this gap by isolating one such mechanism—post-deployment mental health symptoms, and PTSD symptoms in particular. Using individual, longitudinal data Army administrative data linked with post-deployment health screening data, available in the Post Deployment Health Assessment (PDHA) forms, they analyzed whether soldiers with post-deployment PTSD symptoms over the period between March 2003 and June 2010 were more likely to divorce than soldiers without such symptoms.

Negrusa and Negrusa (2014) find that PTSD symptoms increase the divorce probability among Army enlisted personnel by 10–20 % relative to soldiers who

returned from deployment without such symptoms, and by 50–75 % for officers. These estimates are interpreted as being consistent with the hypothesis that PTSD symptoms represent unanticipated marital shocks that decrease the couple's expected gains from marriage and increase the risk of divorce. In line with this theory, the higher effect of PTSD symptoms on officers suggests that for officers the incidence of PTSD symptoms is a larger negative shock than for enlisted personnel. The study also finds that soldiers without post-deployment mental health symptoms are more likely to divorce than soldiers who do not deploy, meaning that PTSD symptoms are not solely responsible for the increase in deployment-related divorces.[1] The relationship between divorce and PTSD symptoms do not differ by gender or by deployment length, and the divorce hazard increases more steeply in the first months after deployment. Negrusa et al. (2014) and Negrusa and Negrusa (2014) produce estimates that can be interpreted as causal effects of deployment and deployment-related mental health issues on the risk of divorce. Negrusa et al. (2014) used the randomness in the allocation of deployments, the heterogeneity in the deployment experience, and the unanticipated change in the frequency and danger of deployments after 9/11 to identify the effect of deployment on the risk of divorce, while Negrusa and Negrusa (2014) identify a valid effect of PTSD symptoms on divorce, as PTSD symptoms are not related to predispositional variables that make divorce more likely.

Research on deployment and divorce has been an active topic in the field of psychology, motivated by interest in the factors determining marital stability and by whether interventions aimed at helping military couples cope with deployment-related stress are effective in promoting healthy marriages and preventing divorce. Stanley et al. (2010) and Allen et al. (2010) indicate that such programs may be effective and, further, find that while deployment per se is not associated with differences in marital functioning, PTSD symptoms among those who had been deployed were associated with decreased marital functioning.

Stanley et al. (2010) note that in the mid-1990s the Army trained chaplains in variants of the Prevention and Relationship Enhancement Program (PREP). The latest version at that time, PREP for Strong Bonds, is designed to teach couples about how to sustain a healthy relationship over two, 1-day workshops that cover "communication and affect management skills, insights into relationship dynamics, principles of commitment, fun and friendship, forgiveness, sensuality, deployment/reintegration issues, and stress management." In a randomized controlled trial with 476 couples, Stanley et al. (2010) find that couples in the group selected for treatment had a lower divorce percentage 1 year after treatment than did control couples, 6 % versus 2 %, a statistically significant difference at the 3 % level. The control and treatment groups were well balanced and had similar deployment experience; 69 % of the couples experienced a deployment in the year before the

[1] It is also possible that some of the effect Negrusa and Negrusa (2014) attribute to factors unrelated to PTSD symptoms may in fact be attributable to PTSD symptoms to the extent that some service members do not report their PTSD symptoms on the PDHA/PDHRA forms.

intervention, and the average length of deployment was 12 months. The study also tests whether deployment moderated the effect of the PREP intervention on the likelihood of divorce at the 1-year follow-up, and the difference in divorce is always in the same direction as the overall analysis, though no specific estimates are reported.

Allen et al. (2010) undertake a companion study with 434 active duty Army husbands married to civilian wives that were part of the sample of 476 couple in Stanley et al. (2010). Based on self-reports from husbands and wives, there is no difference in the relationship functioning between couples where the husband was, or was not, deployed in the prior year. But husbands who were deployed in the prior year have higher levels of current PTSD symptoms and their current PTSD symptoms correlate with "lower marital satisfaction, confidence in the relationship, positive bonding between the spouses, parenting alliance, and dedication to the relationship for both husbands and wives."

Legal factors may influence the timing of divorce. The Soldiers' and Sailors' Civil Relief Act, in effect for over 60 years, was succeeded by the Servicemembers Civil Relief Act (SCRA), passed in 2003. Baughn (2005–2006) states that SCRA "stayed and limited [legal] actions" against service members who were deployed or busy with military duties that made it difficult to respond to a lawsuit.[2]

## 3.3 Effect of Deployment on Divorces by Demographic Characteristics

The following empirical analysis explores whether deployment effects vary across groups defined by race/ethnicity, level of education, and branch of service. Within these groups we allow deployment effects to differ between couples with one service member and with two service members (dual military couples). Given the past finding that deployment effect on divorce depends on cumulative months of deployment, we also estimate models for groups defined by the cumulative number of deployments.

A motivation for stratifying the data into groups comes from the fact that marriage markets are to a large extent defined by racial and educational characteristics. Many articles discuss assortative mating behaviors by these and other dimensions (e.g., Brien, 1997; Negrusa & Oreffice, 2010; Qian, 1998; Weiss & Willis, 1997). Unobserved conditions both at marriage formation and in couples'

[2] Service members not wanting a divorce can request a stay under SCRA. "Servicemembers often face custody and visitation disputes, especially in light of the increasingly high number of female soldiers deployed. These soldiers usually try to stay the custody proceedings under SCRA, absent any abuse or neglect, and begin gathering evidence to be used in a custody battle based on factors the judge must consider. The soldier is at a disadvantage in a custody suit brought before the court either during or after deployment, because the other parent has often gained an advantage by being the custodial parent during the deployment." (Baughn, 2005–2006)

approaches to handling stress may differ by group, and this could produce different estimated effects of deployment on divorce. Similarly, to the extent that families have different support structures and cope with deployment stresses differently depending on whether they are in the Army, Navy, Air Force or Marine Corps, the effect of deployment on divorce could differ by military branch.

Previous literature on the marital dynamics of military families finds that marital rates do not vary across races (Lundquist, 2004), but divorce rates for Black service members are slightly lower than for White service members (Lundquist, 2006). Westhuis et al. (2006) point to differences by ethnicity in how families cope with the everyday stresses of military life. The current study contributes to this literature by providing a multifaceted look at the effect of a stressor, deployment, on the stability of military families defined by race, education, branch, and number of deployments.

Table 3.1 presents the means of the main variables of interest. Females tend to be more concentrated in the Air Force and in the groups with higher education. The average age at marriage is about 22 overall but higher in the more educated groups. Given that our empirical model uses multiple observations per individual, for variables that are time-varying the means indicate the average value at which they are considered in the regression models. The only exception is the months deployed (at exit) variable, which indicates the total number of months deployed at the time the individual leaves service or is last observed in the timeframe of our data. The groups are nonoverlapping within the same category, but are overlapping across categories. For instance, the race groups are nonoverlapping, but they overlap when we group by education or branch.

Using the data and regression specification described in Negrusa et al. (2014), in Table 3.2 we present the estimates for race/ethnic groups: White, Black, (self-identified) Hispanic, and Other.[3] The results for non-dual military families are in the upper part of the table. The effects of deployment are similar across the groups as seen by the size and sign of the deployment coefficients that are statistically significant. More specifically, deployment before 9/11 has no statistically significant effect on the divorce hazard except for Blacks, where the effect is positive. In contrast, months deployed after 9/11 has a positive effect on divorce relative to the effect of pre-9/11 months deployed, and this effect is practically the same across racial/ethnic groups. The effect of months deployed after 9/11 is found by summing the pre- and post-9/11 coefficients: for Whites, this is $0.014 + 0.047 = 0.061$. Further, the effect of post-9/11 deployment is the same for couples married before versus after 9/11. The incremental deployment effect for couples married after 9/11 is −0.001, which when added to 0.061 hardly changes things.

But, importantly, couples married after 9/11 have a lower intercept. Therefore, even though the deployment effect is the same as that of couples married before

[3] All models presented in this study are estimated as individual-level discrete hazard models of divorce in a calendar quarter and include, along the main variables discussed in the text, controls for age, age at marriage, years in military, time married, military rank, 1-digit DoD occupation indicators, AFQT scores, months since last deployment, and calendar quarter indicators.

**Table 3.1** Descriptive statistics by groups (enlisted personnel)

| | White | Black | Hisp | Other race | No HS | High school | Some college | College | Army | Navy | Air force | Marine corps |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Female | 0.18 | 0.27 | 0.21 | 0.25 | 0.10 | 0.20 | 0.28 | 0.26 | 0.19 | 0.19 | 0.27 | 0.10 |
| Age at first marriage | 21.94 | 22.29 | 21.98 | 22.52 | 22.21 | 21.90 | 23.84 | 26.87 | 22.71 | 22.31 | 21.57 | 21.23 |
| Years in military | 4.05 | 4.27 | 4.30 | 4.17 | 4.28 | 3.99 | 5.06 | 3.94 | 3.94 | 4.18 | 4.08 | 3.81 |
| Years married | 1.91 | 1.98 | 2.08 | 1.99 | 2.06 | 1.89 | 2.71 | 1.99 | 1.72 | 2.01 | 2.04 | 1.84 |
| Deployed | 0.82 | 0.84 | 0.88 | 0.83 | 0.91 | 0.83 | 0.78 | 0.77 | 0.88 | 0.87 | 0.68 | 0.89 |
| Mo deployed | 3.74 | 4.07 | 4.94 | 4.06 | 5.03 | 3.89 | 3.78 | 3.34 | 4.55 | 3.94 | 2.12 | 5.55 |
| Mo deployed (at exit) | 7.64 | 8.30 | 9.67 | 8.04 | 9.62 | 7.94 | 6.35 | 6.80 | 10.10 | 7.37 | 4.74 | 10.09 |
| Mo since last depl | 17.73 | 18.21 | 17.77 | 18.04 | 16.39 | 17.31 | 25.66 | 19.91 | 15.31 | 17.19 | 22.01 | 14.81 |
| Observations | 1,945,557 | 545,832 | 322,374 | 207,042 | 40,984 | 3,001,768 | 86,193 | 63,404 | 927,726 | 899,826 | 863,942 | 517,365 |

**Table 3.2** Effect of deployments on the divorce hazard by race/ethnicity (enlisted personnel)

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | White | Black | Hispanic | Other |
| Months deployed | 0.014 | 0.040* | −0.004 | 0.008 |
| | (0.016) | (0.024) | (0.035) | (0.040) |
| Months deployed post 9/11 | 0.047*** | 0.045** | 0.047* | 0.052 |
| | (0.012) | (0.020) | (0.026) | (0.033) |
| Mo depl post 9/11 × Marr post 9/11 | −0.001 | 0.007 | 0.006 | 0.002 |
| | (0.004) | (0.007) | (0.008) | (0.011) |
| Months deployed squared | 0.001* | 0.001 | 0.001 | 0.000 |
| | (0.000) | (0.001) | (0.001) | (0.001) |
| Mo depl post 9/11 squared | −0.002*** | −0.001** | −0.001* | −0.001 |
| | (0.000) | (0.001) | (0.001) | (0.001) |
| Married post 9/11 | −0.158*** | −0.129** | −0.286*** | −0.131 |
| | (0.036) | (0.064) | (0.089) | (0.111) |
| Dual | 0.475*** | 0.430*** | 0.483*** | 0.495*** |
| | (0.023) | (0.040) | (0.062) | (0.072) |
| Months deployed × Dual | 0.058*** | 0.035 | 0.019 | 0.048 |
| | (0.014) | (0.024) | (0.031) | (0.046) |
| Months deployed post 9/11 × Dual | −0.048*** | −0.032 | −0.015 | −0.050 |
| | (0.016) | (0.028) | (0.036) | (0.053) |
| Mo depl post 9/11 × Marr post 9/11 × Dual | 0.001 | −0.004 | 0.013 | −0.005 |
| | (0.006) | (0.009) | (0.011) | (0.017) |
| Female | 0.614*** | 0.508*** | 0.667*** | 0.666*** |
| | (0.022) | (0.035) | (0.055) | (0.066) |
| Observations | 1,945,557 | 545,832 | 322,374 | 207,042 |

*NOTE*: All models include controls for age, age at marriage, years in military, time married, military rank, 1-digit DoD occupation indicators, AFQT scores, months since last deployment, and calendar quarter indicators. Clustered standard errors (by individual identifier) in parentheses.
*$p<0.1$; **$p<0.05$; ***$p<0.01$

9/11, the lower intercept of couples married after 9/11 implies that they are less likely to divorce. This is consistent with previous results suggesting a selection effect. Couples considering marriage after 9/11 apparently took into account the likelihood of more frequent and more dangerous deployments in the future as compared with the period before 9/11, and those couples who felt they could handle such a future may have chosen to marry, while others chose not to marry or perhaps to postpone marriage until a less risky time.

Table 3.2 shows that dual military families have a higher divorce hazard than non-dual military families. The coefficient on the dual family indicator for Whites, for example, is 0.475, which is significant and large in this context. In addition, the effect of pre-9/11 months deployed is positive and larger for dual families than for non-dual families, but is statistically significant only for Whites. For dual family Whites, the effect of pre-9/11 months deployed is $0.014 + 0.058 = 0.072$. For these

families, the effect of post-9/11 months deployed (ignoring squared terms for simplicity) is $(0.014+0.058)+(0.047-0.048)=0.071$. So for Whites in dual military families the effect of months deployed after 9/11 is the same as that of months deployed before 9/11. This is true both for dual Whites married before 9/11 and for those married after 9/11. The other race/ethnic groups have a similar pattern although their results are not statistically significant. Overall, dual military families have a higher divorce hazard than do non-dual families, aside from deployment. When deployment enters the picture, the effect of months of pre-9/11 deployment on the divorce hazard is higher for dual families than for non-dual families, and this effect remains the same for post-9/11 deployment. Again, this is true regardless of whether the dual family married before 9/11 or after. Together, these results indicate that deployment has a larger effect on divorce for dual families than for non-dual, suggesting that deployment places greater strain on them or they have more difficulty coping with it. Finally, Table 3.2 shows that female service members have a higher divorce hazard than do male service members.

We can use the estimated hazard model to compute the effect of a variable on the survival probability, i.e., the probability that the marriage remains intact as the variable changes. Figure 3.1 presents the predicted survival probabilities with respect to months married. This is done for White, Black, and Hispanic couples, respectively, who married before 9/11 and experienced a 12-month deployment after 9/11. These predictions, calculated by applying the coefficients shown in

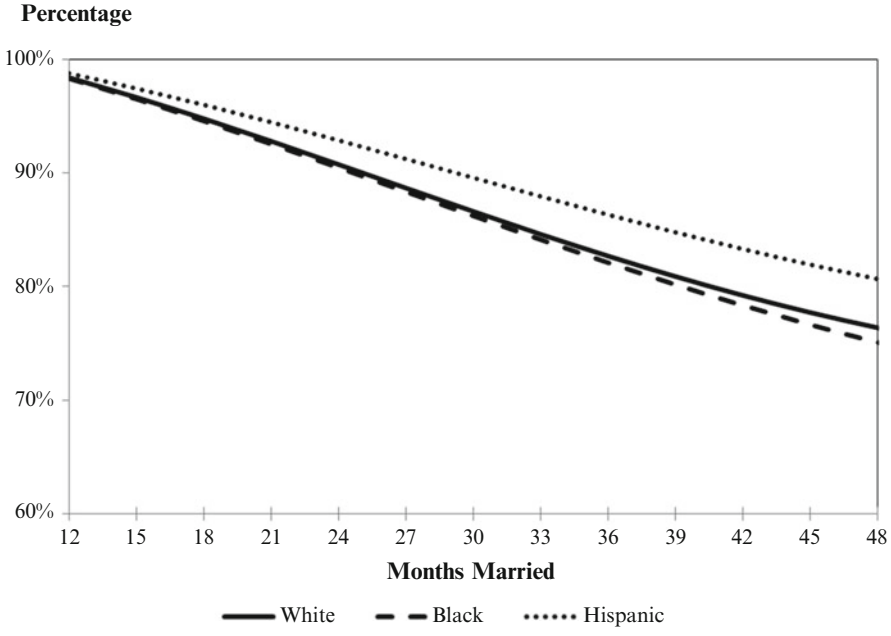


**Fig. 3.1** Predicted survival rates of marriages formed before 9/11 that experienced 12 months of post 9/11 deployment (by race/ethnicity)

Table 3.2 to the means of the data for given values of time in marriage, indicate that White couples have a survival probability of 82.7 % in the first 3 years of marriage, while Black and Hispanic couples have a survival probability of 82.1 % and 86.3 %, respectively. Relative to a "baseline" couple that experiences no deployments, the increase in the cumulative probability of divorce over the first 3 years in marriage as a result of a 12-month post-9/11 deployment (for couples married before 9/11) is 10.6 % for Whites, 13.0% for Blacks, and 7.4 % for Hispanics.[4]

Table 3.3 shows results by education level for service members with less than a high school diploma, a high school diploma only, some college, and 4 or more years of college. The effects of deployment are largest for members with a high school diploma. Months deployed before 9/11 increase their divorce hazard (the coefficient is 0.025), and months deployed after 9/11 add to this positive effect ($0.025 + 0.042 = 0.067$ ignoring the squared terms). As in the race/ethnicity results, couples that married after 9/11 have a lower divorce hazard (selection effect), and the effect of deployment after 9/11 is no different for them than for couples married before 9/11. At other education levels the results are mostly not significant, probably because of small sample sizes and few divorce events. Our overall sample includes only enlisted personnel, and more than 90 % of the sample is at the high school level.

Consistent with the race/ethnicity results, the results by education indicate a higher divorce hazard for dual military families and for families where the service member is female. Further, comparing dual families at the high school level to non-dual families at that level, the impact of months deployed before 9/11 is 0.025 for non-dual families and $0.025 + 0.040 = 0.065$ for dual families. The effect of months deployed after 9/11 is $0.025 + 0.042 = 0.067$ for non-dual families and $(0.025 + 0.040) + (0.042 - 0.032) = 0.075$ for dual families. Further, there is no difference in the latter effect between dual families that married before versus after 9/11. So the impact of deployment increases after 9/11 for non-dual families but changes little—increases slightly—for dual families. This is basically the same result as in Table 3.2 in the race/ethnicity models.

## 3.4 Effect of Deployments by Military Characteristics

We also analyze the impact of deployment by military service and by the number of deployments experienced by the service member. There are several overall observations that are consistent with those from Tables 3.2 and 3.3:

[4] Pooling all races in an overall model in which we included only a simple "months in deployment" variable and interactions of this variable with the race indicators, provides evidence that the differences in the effect of deployment are statistically significantly different across races (model not shown for space considerations). However, a direct test of statistical differences in the deployment effects by race shown in Fig. 3.1 is not feasible, given the lack of variation in a pooled model that includes a full set of interactions between all deployment time variables in Table 3.2 and the race indicators.

**Table 3.3** Effect of deployments on the divorce hazard by education level (enlisted personnel)

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | No HS | High school | Some college | College |
| Months deployed | 0.091 | 0.025** | 0.054 | 0.014 |
| | (0.086) | (0.011) | (0.049) | (0.104) |
| Months deployed post 9/11 | 0.007 | 0.042*** | −0.016 | 0.050 |
| | (0.069) | (0.009) | (0.044) | (0.058) |
| Mo depl post 9/11 × Marr post 9/11 | −0.026 | 0.003 | 0.006 | −0.014 |
| | (0.025) | (0.003) | (0.016) | (0.030) |
| Months deployed squared | 0.000 | 0.001*** | 0.001 | 0.000 |
| | (0.002) | (0.000) | (0.001) | (0.003) |
| Mo depl post 9/11 squared | −0.000 | −0.001*** | −0.001 | −0.002 |
| | (0.003) | (0.000) | (0.001) | (0.003) |
| Married post 9/11 | 0.421 | −0.185*** | −0.105 | −0.081 |
| | (0.304) | (0.029) | (0.146) | (0.229) |
| Dual | 0.415** | 0.475*** | 0.453*** | 0.611*** |
| | (0.188) | (0.018) | (0.098) | (0.146) |
| Months deployed × Dual | −0.030 | 0.040*** | 0.060 | 0.080 |
| | (0.108) | (0.011) | (0.053) | (0.066) |
| Months deployed post 9/11 × Dual | 0.048 | −0.032** | −0.071 | −0.121 |
| | (0.118) | (0.013) | (0.061) | (0.092) |
| Mo depl post 9/11 × Marr post 9/11 × Dual | −0.005 | 0.000 | 0.014 | 0.033 |
| | (0.036) | (0.004) | (0.020) | (0.050) |
| Female | 1.106*** | 0.606*** | 0.533*** | 0.639*** |
| | (0.185) | (0.017) | (0.090) | (0.130) |
| Observations | 40,984 | 3,001,768 | 86,193 | 63,404 |

*NOTE*: All models include controls for age, age at marriage, years in military, time married, military rank, 1-digit DoD occupation indicators, AFQT scores, months since last deployment, and calendar quarter indicators. Clustered standard errors (by individual identifier) in parentheses.
*$p<0.1$; **$p<0.05$; ***$p<0.01$

- Months deployed before 9/11 has little effect on the divorce hazard. None of the coefficients across the services is statistically significant.
- Months deployed after 9/11 has a positive effect on the divorce hazard. The coefficients are all significant except for the Marine Corps.[5] The estimates are 0.063 for the Army, 0.112 for the Navy, 0.041 for the Air Force, and 0.070 for the Marine Corps.

[5] In the absence of additional data, we can only speculate on the reasons why the effects are statistically insignificant for Marine Corps families. Potential explanations may be that these families are better equipped to deal with the risks of deployments, or that there is simply insufficient variation in the data to accurately estimate distinct deployment effects by period of marriage formation and by deployment period (before or after 9/11). The latter hypothesis is more likely, given that in a simplified model in which we only include the "months deployed" variable and its squared term yields a coefficient of +0.042 (significant at 5 %).

- Couples married after 9/11 have a lower divorce hazard than do couples married before 9/11.
- Dual military families have a higher divorce hazard compared with non-dual families. The deployment effects for dual military families vary by service and many coefficients are not statistically significant. The point estimates for dual families in the Army are $0.030-0.004=0.026$ for pre-9/11 months of deployments, and $(0.030-0.004)+(0.044-0.007)=0.063$ for post-9/11 months. The effects for the other services are as follows: Navy, pre-9/11 effect: 0.096, post-9/11 effect: 0.112; Air Force, pre-9/11 effect: 0.070, post-9/11 effect: 0.041; and Marine Corps, pre-9/11 effect: 0.081, post-9/11 effect: 0.070.
- The predicted 3-year marriage survival probability of couples formed before 9/11 who experienced a 12-month deployment after 9/11 is: 87.1 % for Army, 84.8 % for Navy and 82.6 % for Air Force. Relative to no-deployment couples, these translate into increases in the risk of divorce of 6.5 % for Army, 8.2 % for Navy, and 9.8 % for Air Force (calculations based on estimates from Table 3.4).[6]

In Table 3.5 we investigate the effect of deployment by the number of deployments. We estimate the main specification on a subsample including observations from enlistment up to the second deployment (column 1), from enlistment up to the third deployment (column 2) and so on. In column 1 we include all individuals, but only the observations from before any deployment and the observations from after the first deployment, while in column 2 we use again all individuals, and include all observations from: before any deployment, after the first deployment, and after the second deployment. Models 3–5 are estimated in a similar fashion. Thus, the respective column accumulate deployment, i.e., are inclusive of all prior deployment. Stated differently, we accumulate deployment from all prior months of deployment, and we exclude the deployment months when defining our months at risk of divorce.

The main conclusion from Table 3.5 is that the effect of deployment on divorces becomes apparent after the first deployment. The homogeneity of the results across the different bins for cumulative number of deployments suggests that our specification, based on cumulative months of deployment, produces much the same results regardless of the number of deployments. The effect of more deployment is the same regardless of whether the deployment is the second, third, fourth, or fifth. This is consistent with the notion that the intense preparation preceding each deployment—unit training, ensuring that the unit is fully manned as new or reassigned personnel replace those who have left the unit, paperwork, medical readiness, establishing family support networks—is not a major factor but rather is largely captured within the cumulative months of deployment variable. Further, the effects of pre- and post-9/11 deployment are similar to the effects found by service and summarized above.

[6] Similar to the excursion for the race groups described in footnote 4, we find evidence of statistically significant differences across branches in a pooled model including a "months in deployment" variable interacted with the branch indicators.

**Table 3.4** Effect of deployments on the divorce hazard by service

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | Army | Navy | AF | MC |
| Months deployed | 0.030 | 0.021 | −0.012 | 0.024 |
| | (0.021) | (0.024) | (0.031) | (0.026) |
| Months deployed post 9/11 | 0.044** | 0.047** | 0.052** | 0.022 |
| | (0.018) | (0.018) | (0.022) | (0.018) |
| Mo depl post 9/11 × Marr post 9/11 | 0.003 | 0.012* | −0.006 | 0.001 |
| | (0.005) | (0.006) | (0.007) | (0.007) |
| Months deployed squared | 0.001*** | 0.001 | −0.001 | −0.000 |
| | (0.000) | (0.001) | (0.001) | (0.001) |
| Mo depl post 9/11 squared | −0.002*** | −0.002*** | 0.001 | −0.000 |
| | (0.000) | (0.001) | (0.001) | (0.001) |
| Married post 9/11 | −0.167*** | −0.209*** | −0.054 | −0.314*** |
| | (0.058) | (0.062) | (0.042) | (0.083) |
| Dual | 0.662*** | 0.076* | 0.544*** | 0.581*** |
| | (0.036) | (0.039) | (0.027) | (0.061) |
| Months deployed × Dual | −0.004 | 0.075*** | 0.082*** | 0.057** |
| | (0.019) | (0.020) | (0.027) | (0.029) |
| Months deployed post 9/11 × Dual | −0.007 | −0.031 | −0.081*** | −0.033 |
| | (0.022) | (0.025) | (0.030) | (0.035) |
| Mo depl post 9/11 × Marr post 9/11 × Dual | 0.010 | −0.016 | −0.005 | −0.005 |
| | (0.007) | (0.010) | (0.008) | (0.011) |
| Observations | 927,726 | 899,826 | 863,942 | 517,365 |

*NOTE*: All models include controls for age, age at marriage, years in military, time married, military rank, 1-digit DoD occupation indicators, AFQT scores, months since last deployment, and calendar quarter indicators. Clustered standard errors (by individual identifier) in parentheses.

*$p<0.1$; **$p<0.05$; ***$p<0.01$

Next, in Table 3.6 we reestimated the model using several different specifications for deployment before marriage. Column 1 includes a dummy variable indicating whether the individual had ever deployed when he or she was single, column 2 includes the count of all months deployed before marriage, and column 3 includes dummies for various categories of deployment time before marriage. We find that an additional month in deployment before marriage increases slightly the subsequent divorce hazard (column 2), and that most of this effect comes from the group of service members who deployed between 14 and 20 months before marriage (column 3). The effects of 1–6 months and 7–13 months of deployment on the divorce hazard, while positive, are not significant, but the effect of 14–20 months of deployment is several times larger and highly significant. The effect of 20 or more months was positive but not significant. Accumulating 14–20 months of deployment, or more, is probably the result of two or perhaps three separate deployments, although some soldiers did have single deployments of up to 18 months.

**Table 3.5** Effect of deployment on the divorce hazard by deployment number

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| | First depl | Second depl | Third depl | Fourth depl | Fifth depl |
| Months deployed | 0.010 | 0.030** | 0.027** | 0.027** | 0.022** |
| | (0.015) | (0.013) | (0.012) | (0.011) | (0.011) |
| Months deployed post 9/11 | 0.030** | 0.034*** | 0.039*** | 0.037*** | 0.040*** |
| | (0.012) | (0.010) | (0.009) | (0.009) | (0.009) |
| Mo depl post 9/11 × Marr post 9/11 | 0.015*** | 0.005 | 0.004 | 0.003 | 0.003 |
| | (0.006) | (0.004) | (0.003) | (0.003) | (0.003) |
| Months deployed squared | 0.001* | 0.000 | 0.001* | 0.001** | 0.001*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Mo depl post 9/11 squared | −0.001*** | −0.001*** | −0.001*** | −0.001*** | −0.001*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Married post 9/11 | −0.186*** | −0.196*** | −0.187*** | −0.184*** | −0.183*** |
| | (0.030) | (0.028) | (0.028) | (0.028) | (0.028) |
| Dual | 0.483*** | 0.478*** | 0.476*** | 0.475*** | 0.474*** |
| | (0.019) | (0.018) | (0.018) | (0.018) | (0.018) |
| Months deployed × Dual | 0.050*** | 0.041*** | 0.039*** | 0.038*** | 0.040*** |
| | (0.014) | (0.012) | (0.011) | (0.010) | (0.010) |
| Months deployed post 9/11 × Dual | −0.045*** | −0.036*** | −0.035*** | −0.033*** | −0.035*** |
| | (0.017) | (0.014) | (0.013) | (0.012) | (0.012) |
| Mo depl post 9/11 × Marr post 9/11 × Dual | 0.005 | 0.002 | 0.003 | 0.002 | 0.002 |
| | (0.008) | (0.005) | (0.004) | (0.004) | (0.004) |
| Female | 0.563*** | 0.598*** | 0.607*** | 0.608*** | 0.609*** |
| | (0.018) | (0.017) | (0.017) | (0.017) | (0.017) |
| Observations | 2,732,917 | 3,061,585 | 3,167,521 | 3,198,808 | 3,207,729 |

*NOTE*: All models include controls for age, age at marriage, years in military, time married, military rank, 1-digit DoD occupation indicators, AFQT scores, months since last deployment, and calendar quarter indicators. Clustered standard errors (by individual identifier) in parentheses.

*$p<0.1$; **$p<0.05$; ***$p<0.01$

The finding that time deployed before marriage increases the divorce risk is surprising because pre-marriage deployment could help individual members and couples form accurate expectations about deployment and its effects. This should decrease the probability of divorce. However, if the service member is deployed when single, the time spent searching for a spouse could be shorter and the eventual match poorer, i.e., a match with a smaller value of marital gains.

**Table 3.6** Effect of deployment before marriage on the divorce hazard

| | (1) | (2) | (3) |
|---|---|---|---|
| Months deployed | 0.021* | 0.020* | 0.021* |
| | (0.011) | (0.011) | (0.011) |
| Months deployed post 9/11 | 0.039*** | 0.040*** | 0.040*** |
| | (0.009) | (0.009) | (0.009) |
| Mo depl post 9/11 × Marr post 9/11 | 0.003 | 0.003 | 0.003 |
| | (0.003) | (0.003) | (0.003) |
| Months deployed squared | 0.001*** | 0.001*** | 0.001*** |
| | (0.000) | (0.000) | (0.000) |
| Mo depl post 9/11 squared | −0.001*** | −0.001*** | −0.001*** |
| | (0.000) | (0.000) | (0.000) |
| Deployed before marriage | 0.021 | – | – |
| | (0.014) | – | – |
| Months deployed before marriage | – | 0.003*** | – |
| | – | (0.001) | – |
| Deployed 1–6 months before marriage | – | – | 0.012 |
| | – | – | (0.016) |
| Deployed 7–13 months before marriage | – | – | 0.023 |
| | – | – | (0.020) |
| Deployed 14–20 months before marriage | – | – | 0.104*** |
| | – | – | (0.031) |
| Deployed more than 20 months before marriage | – | – | 0.048 |
| | – | – | (0.040) |
| Married post 9/11 | −0.181*** | −0.178*** | −0.178*** |
| | (0.028) | (0.028) | (0.028) |
| Dual | 0.476*** | 0.477*** | 0.477*** |
| | (0.018) | (0.018) | (0.018) |
| Months deployed × Dual | 0.040*** | 0.040*** | 0.040*** |
| | (0.010) | (0.010) | (0.010) |
| Months deployed post 9/11 × Dual | −0.034*** | −0.034*** | −0.034*** |
| | (0.012) | (0.012) | (0.012) |
| Mo depl post 9/11 × Marr post 9/11 × Dual | 0.001 | 0.001 | 0.001 |
| | (0.004) | (0.004) | (0.004) |
| Female | 0.609*** | 0.609*** | 0.609*** |
| | (0.017) | (0.017) | (0.017) |
| Observations | 3,212,298 | 3,212,298 | 3,212,298 |

*NOTE*: All models include controls for age, age at marriage, years in military, time married, military rank, 1-digit DoD occupation indicators, AFQT scores, months since last deployment, and calendar quarter indicators. Clustered standard errors (by individual identifier) in parentheses.

*$p<0.1$; **$p<0.05$; ***$p<0.01$

**Table 3.7** Effect of deployments with controls for enlistment period

| | (1) | (2) |
|---|---|---|
| Months deployed | 0.022** | 0.021* |
| | (0.011) | (0.011) |
| Months deployed post 9/11 | 0.039*** | 0.040*** |
| | (0.009) | (0.009) |
| Mo depl post 9/11 × Marr post 9/11 | 0.003 | 0.003 |
| | (0.003) | (0.003) |
| Months deployed squared | 0.001*** | 0.001*** |
| | (0.000) | (0.000) |
| Mo depl post 9/11 squared | −0.001*** | −0.001*** |
| | (0.000) | (0.000) |
| Married post 9/11 | −0.181*** | −0.170*** |
| | (0.028) | (0.028) |
| Enlisted post 9/11 × Married post 9/11 | – | −0.316*** |
| | – | (0.067) |
| Observations | 3,212,298 | 3,212,298 |

*NOTE*: All models include controls for age, age at marriage, years in military, time married, military rank, 1-digit DoD occupation indicators, AFQT scores, months since last deployment, and calendar quarter indicators. Clustered standard errors (by individual identifier) in parentheses.

*$p<0.1$; **$p<0.05$; ***$p<0.01$

Also, some mental and physical health problems following a deployment may surface only after marriage, and once these symptoms appear the couple is at a higher risk of divorce, as shown in Negrusa and Negrusa (2014). These are suggestions, not evidence-based answers, and understanding why pre-marriage deployment should increase the divorce risk remains an open question.

Finally, in Table 3.7 we provide an additional robustness check to the estimates in Negrusa et al. (2014) by including in the main specification an interaction term between a dummy variable indicating whether the service member enlisted after 9/11 and the indicator for whether the individual married after 9/11. It is important to note that the main estimates do not change, and that those who married after 9/11 but who also enlisted after 9/11 are much less likely to divorce than those who enlisted before 9/11 and married after 9/11. This finding is consistent with the conceptual framework discussed above, in that those who enlisted after 9/11 were better informed about the challenges of military life in the post-9/11 era than those who were single but already in service as of 9/11.

## 3.5 Closing Comments

The empirical results we have presented help to establish the robustness of our earlier findings that deployments increase the risk of divorce. Although recognizing that some parameter estimates differ, we suggest that the central findings from our analysis are the following:

- For couples married before 9/11, deployment after 9/11 further increases the divorce hazard
- For couples married after 9/11, deployment after 9/11 has about the same effect on the divorce hazard as for couples married before 9/11
- However, compared to couples married before 9/11, couples married after 9/11 had a lower divorce hazard. This is consistent with the hypothesis that these couples formed better expectations regarding the requirements of military life in the post-9/11 era and thus felt they could cope with it
- Deployment before marriage increases the divorce hazard when married
- Regarding robustness, these findings largely hold across groups defined by race/ethnicity, education level, branch of service, and number of deployments

Several concepts assist in unifying these findings. The concepts are expectations, self-selection, and stress from separation caused by deployment itself. The attacks of 9/11 and subsequent U.S. decision to send forces to Iraq and Afghanistan were large, exogenous events. These events were common knowledge, and both married couples and couples thinking about marriage could conclude that the era after 9/11 would be one of heightened deployments. For couples married before 9/11, expected deployment would now be greater than expected at their wedding. The higher expected level of deployment might have deterred some of these couples from marrying, had they known at the time. Couples married after 9/11 could base their expectations on the now-higher level of deployment, and subsequent realizations of deployment came as no surprise or at least were not radically different than expectations. Further, only couples that felt they could cope with the requirements of military life after 9/11 would choose to enter marriage after 9/11 (self-select). This helps to explain why couples married after 9/11 had a lower divorce hazard than couples married before 9/11.

We also find that time deployed before marriage contributes to a higher divorce risk. One might expect that pre-marriage deployment would help couples form more accurate expectations about the effects of deployment on their married life and would decrease the divorce risk, but this is not the case. Instead, months of deployment before marriage increase the divorce hazard. Still, this effect is small. The coefficient is 0.003 as compared with coefficients on months of deployment and months of deployment after 9/11 of 0.020 and (0.020 + 0.040 =) 0.060, respectively (Table 3.6). We do not know the reason, but the results suggest that the driver of this coefficient is deployment of 14–20 months, a fairly large amount of deployment. Worsening of post-deployment health, a shorter marital search process, or an inability of the couple to absorb the member's experience from prior deployment may override what had been our initial expectation.

The estimates from this chapter as well as those from Negrusa et al. (2014) shed light on the causal relationship between deployments and marital outcomes. However, many important related questions remain open. These include why cumulative months of deployment matter, and why the effect of cumulative months differ by group, e.g., male versus female service member, or for members with high

school educations but not other levels of education. Equally important are issues related to policy interventions to prepare couples for the stresses of deployment and to maintain marriages intact. Stanley et al.'s (2010) study of PREP for Strong Bonds is a valuable step forward because of its use of a randomized controlled trial, and future studies employing a randomized or experimental framework can help to identify effective programs as well as responsiveness by group. Also, future analyses would benefit if administrative personnel records were augmented with information about the programs and support received by military families.

The purpose of this study was to provide a rigorous, statistical analysis of the link between deployments and divorces among military families by various groups of potential interest for policymakers. Work is of course needed to determine effective interventions to help families to cope with the stresses of deployments, and we hope our findings contribute by drawing attention to the role of expectations, self-selection, and stress from separation.

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# Chapter 4
# Military Couples and Posttraumatic Stress: Interpersonally Based Behaviors and Cognitions as Mechanisms of Individual and Couple Distress

**Sarah Burns Campbell and Keith D. Renshaw**

**Abstract** Substantial research indicates that spouses and romantic partners of veterans who have been diagnosed with combat-related posttraumatic stress disorder (PTSD) experience significant amounts of both psychological and relationship distress. Although research has made great strides in understanding the mechanisms of trauma-related distress in veterans, knowledge about the mechanisms of distress experienced by veterans' spouses and romantic partners is more limited. Given the high numbers of troops returning from combat in Iraq and Afghanistan in the past decade with symptoms of PTSD and the important role spouses/partners play in supporting traumatized troops, more information about the mechanisms of distress in spouses/partners is needed to enhance treatments intended to aid both members of the couple. This chapter provides an updated overview of research studies concerning mechanisms of distress in spouses and partners of veterans traumatized by combat, specifically as they relate to a cognitive-behavioral interpersonal framework. In addition, we provide recommendations for future areas of research based on current findings and gaps in the literature.

**Keywords** PTSD • Intimate relationships • Military personnel • Stress disorders

## 4.1 Introduction

More than 1.9 million American troops have deployed to Operations Iraqi Freedom, Enduring Freedom, and New Dawn, and estimates of posttraumatic stress disorder (PTSD) and other mental health diagnoses obtained during deployment have been as high as 20–30 % in returned troops (Hoge et al., 2004; Institute of Medicine, 2013).

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Effects of such problems extend beyond service members and veterans, as considerable research has established that spouses and romantic partners of individuals who are diagnosed with combat-related PTSD experience negative effects in both their psychological health and romantic relationships (meta-analysis by Lambert, Engh, Hasbun, & Holzer, 2012). Indeed, psychological and relationship distress can exist for spouses and romantic partners (hereafter referred to as partners) even when service members/veterans (hereafter referred to as veterans) experience subclinical levels of PTSD symptoms (e.g., Campbell & Renshaw, 2012).

Over the last decade, various groups have proposed models attempting to explain the dynamics between symptomatic veterans and their partners and the perpetuation of distress in each member of the couple (e.g., Monson, Fredman, & Dekel, 2010; Nelson Goff & Smith, 2005; Renshaw, Blais, & Caska, 2011). This chapter will briefly review several of the models and then provide an update of research from our laboratory that builds upon an elaborated view of the Cognitive Behavioral Interpersonal Model, in particular.

## 4.2 Models of Development of Interpersonal Distress

### *4.2.1 Secondary Traumatic Stress*

Secondary traumatic stress (STS; sometimes called *compassion fatigue* or *vicarious traumatization*) suggests that individuals who are emotionally close to and in regular close contact with traumatized persons ultimately become distressed themselves (e.g., Figley, 1995). Clinically, the distress experienced by individuals close to the traumatized person is described as mimicking PTSD symptoms, and is hypothesized to result from empathic connection to the traumatized individual and regular exposure to or internalization of the PTSD symptoms (Figley, 1995). Thus, distress is transmitted from the traumatized individual to those close to him or her. Of note, STS, strictly speaking, does not address the partner's prior trauma history and presumes that the secondary trauma symptoms result specifically from a novel trauma experienced by the partner. To date, research on STS in the context of combat-related trauma has been inconsistent in the operationalization and consequent measurement of STS (e.g., Ben Arzi, Solomon, & Dekel, 2000; Zerach, Greene, & Solomon, 2014).

### *4.2.2 Attachment Theory*

Attachment theory has also been offered as an explanation for the transmission of distress between partners in the context of PTSD. Based on the seminal work of Bowlby (1969), attachment theory postulates that all humans share a basic

need for connection to a significant other. Faulty or ruptured attachment bonds with close others can variably result in excessive proximity seeking (e.g., anxious attachment) or excessive distancing (e.g., avoidant attachment). Numerous researchers (e.g., Basham, 2008; Johnson, 2002) have applied attachment theory to the development of distress in partners of trauma survivors, in regard to both general trauma and deployment or combat-related trauma more specifically. These researchers hypothesize that the shattered world assumptions, including decreased trust in others, that accompany the aftermath of traumatic events may prompt behavior changes that rupture attachments with significant others. Moreover, hallmark symptoms of PTSD, such as numbing, withdrawal, anger, and hyperarousal, may trigger insecure attachment responses in the non-traumatized partner, leading to further distancing or proximity seeking, and preventing the reestablishment of secure attachments between partners. Empirical research is beginning to support the presence of ruptured attachments in the transmission of psychological and relationship distress for post-combat military couples (e.g., Dekel, 2007; Ein-Dor, Doron, Solomon, Mikulincer, & Shaver, 2010).

### *4.2.3 Couple Adaptation to Traumatic Stress Model*

An additional explanatory model of the development of interpersonal distress in response to trauma is the Couple Adaptation to Traumatic Stress (CATS) model, proposed by Nelson Goff and Smith (2005). The CATS model proposes three levels of factors whose interactions influence interpersonal distress after trauma. The levels include: (1) individual posttraumatic functioning (emotional, behavioral, cognitive, and biological) of each partner in the relationship, (2) existing predisposing factors (e.g., previous trauma) and current resources (e.g., coping style and available support) for each individual that influence the response to trauma, and (3) couple-level factors, including relationship satisfaction, intimacy, nurturance, conflict, and communication. The CATS model postulates multiple mechanisms for the transmission of distress between members of a couple and the elevation of distress in each member, although it does not give preference to any specific mechanism of action.

### *4.2.4 Cognitive Behavioral Interpersonal Model*

A subsequent model that, in some ways, built upon the foundation of the CATS model was the Cognitive Behavioral Interpersonal (CBI) model (Monson et al., 2010). The CBI model, like the CATS model, proposes bidirectional associations among individual characteristics of each partner in the development of relationship distress and the perpetuation of PTSD symptoms. However, the CBI model is

distinct from the CATS, in that it uses a cognitive-behavioral framework to explicitly organize these individual characteristics in terms of interpersonal and intrapersonal cognitions and behaviors, as well as intrapersonal affect.

### *4.2.5 Elaboration on the Cognitive Behavioral Interpersonal Model*

Finally, a recent chapter by members of our research laboratory (Renshaw et al., 2011) elaborated on the CBI model by positing specific behaviors and cognitions in both veterans and partners that influenced the manifestation of distress related to PTSD in military couples. We differentiated between internalizing and externalizing behaviors in veterans, and addressed partner behaviors (e.g., accommodation) and cognitions (e.g., perceptions of and attributions for PTSD symptoms). In this chapter, we will briefly summarize these concepts and descriptions of the elaborated Cognitive Behavioral Interpersonal model, and update and expand upon them with recent research findings, including those that address couple-level mechanisms.

## 4.3 Interpersonally Based Cognitions and Behaviors

### *4.3.1 Veterans' Internalizing Behaviors*

#### 4.3.1.1 Overview

Veterans' behavioral changes resulting from PTSD can impact their interpersonal functioning and their partners' well-being. With regard to internalizing behaviors, veterans may avoid activities or locations that might trigger flashbacks and impede couple functioning by restricting day-to-day activities (such as eating at restaurants, going shopping, driving) and enjoyment of daily life (Sherman, Zanotti, & Jones, 2005). Moreover, veterans with emotional numbing may be less likely to engage in emotional communication with partners and share in the emotional intimacy of the relationship. Substantial research has demonstrated that emotional numbing is among the most detrimental PTSD symptoms for relationship satisfaction (Cook, Riggs, Thompson, Coyne, & Sheikh, 2004; Lunney & Schnurr, 2007; Taft, Schumm, Panuzio, & Proctor, 2008). Emotional numbing and withdrawal are also associated with reductions in emotion-focused communication, trauma-related self-disclosure, and sexual intimacy in veterans (Evans, McHugh, Hopwood, & Watt, 2003; Solomon, Dekel, & Mikulincer, 2008). Taken together, when veterans avoid trauma-related situations as well as emotional experience and expression, their mental health, the mental health of their partners, and the quality of their romantic relationships

may suffer. Conversely, veterans who maintain a typical level of activity and a higher level of emotional connection with their partners are more likely to be resilient to relationship distress.

#### 4.3.1.2 Recent Research

At the time of publication of the previous chapter by Renshaw and colleagues (2011), links between emotional numbing symptoms (sometimes combined with situational avoidance) and relationship distress relied primarily on veterans' self-reports of distress. Only three earlier studies had included partners' reports (Evans et al., 2003; Nelson Goff, Crow, Reisbig, & Hamilton, 2009; and Riggs, Byrne, Weathers, & Litz, 1998). Consequently, inferences about partners' distress were typically drawn from veterans' reports of distress.

Our lab has recently conducted two sets of analyses addressing these issues, using data from a sample of 219 OIF/OEF-era veterans and their partners. First, Rodrigues (2012) explored simultaneous direct and indirect associations of PTSD symptoms with both veteran *and* partner reports of relationship satisfaction. Veterans' internalizing behaviors were represented by a latent variable of communication, and PTSD symptoms were operationalized with a five-factor model of PTSD symptom clusters: reexperiencing, avoidance, emotional numbing, dysphoric arousal, and anxious arousal (Elhai et al., 2011). In a structural equation model with both partners' relationship satisfaction as the outcomes, Rodrigues found that there were significant, negative direct effects of emotional numbing on *both* partners' reports of relationship satisfaction. In addition, emotional numbing symptoms exerted a significant indirect effect on veterans' relationship satisfaction, and a marginally significant indirect effect on partners' relationship satisfaction, via veterans' reduced communication. Finally, situational avoidance had a direct, negative association with partners' relationship satisfaction. These findings are consistent with the notion that emotional numbing affects both partners' relationship satisfaction in part via reductions in the level of veterans' communication. However, the findings were limited by their cross-sectional nature and the non-standardized measure of communication.

Campbell and Renshaw (2013) conducted a second set of analyses using a subsample (83 service members and 91 partners) of participants from this same study who completed additional measures 4–6 months after the initial questionnaires. Baseline PTSD symptom clusters were modeled as predictors of later relationship satisfaction in both partners, with a specific measure of veterans' deployment-related self-disclosure modeled as a mediator. The disclosure measure was completed by both veterans (self-report) and partners (partner-report). Partially mirroring the cross-sectional findings of Rodrigues (2012), the baseline emotional numbing experienced by veterans exerted significant direct effects on their later relationship satisfaction (though there were not significant direct effects on partners' later relationship satisfaction) in a model that included all other PTSD symptom clusters. In addition, veterans' emotional numbing exerted significant

indirect effects on their relationship satisfaction and marginally significant indirect effects on partners' relationship satisfaction via self- and partner-reports of reduced emotional disclosure by veterans.

These findings support the notion that the negative impact of emotional numbing symptoms of PTSD are, at least in part, due to problems with communication. Thus, clinicians may be able to help foster resilience in couples by encouraging veterans to communicate more with their partners, particularly regarding their emotions, following trauma. Of note, the results also demonstrated the importance of collecting data from both members of the couple. In the second study (Campbell & Renshaw, 2013), nearly half of the indirect effect of symptoms on veterans' satisfaction and almost all of the indirect effect of symptoms on partners' relationship satisfaction were accounted for by the indirect pathways via *partners*' report of veterans' disclosure. Collecting data from both partners is thus an important methodological consideration for understanding dyadic processes in the context of PTSD.

Complementing the studies above, one additional study (Erbes, Meis, Polusny, Compton, & Wadsworth, 2012) has explored longitudinal associations of veterans' PTSD symptom clusters with reports of later relationship satisfaction from both partners. The dysphoria cluster of symptoms (which includes emotional numbing) demonstrated a particularly negative effect on the relationship satisfaction of veterans over time. The same effect for partners was nonsignificant, but in the expected direction. The authors noted that results may have been influenced by low power to detect effects given their relatively small sample of 40 veterans and 46 partners with time 2 data. These findings provide some additional support for the associations between dysphoria symptoms (including emotional numbing) with relationship distress, and reinforce the importance of collecting both veteran *and* partner report of relationship satisfaction.

Collectively, the studies reviewed above lend support to elements of both the CBI model and the CATS model. Veterans who are more emotionally numb may communicate less with their partners, and this behavioral change may be one way in which the traumatized individual's reaction leads to more relationship distress for both partners. Of note, collecting data from both members of the couple appears to more clearly illuminate these interactive processes.

### *4.3.2 Veterans' Externalizing Behaviors*

#### 4.3.2.1 Overview

Research has also linked several PTSD-related externalizing behaviors with partners' relationship distress. In particular, past research has demonstrated significant associations between PTSD symptoms and both physical and psychological aggression in romantic relationships (Byrne & Riggs, 1996; Carroll, Rueger, Foy, & Donahoe, 1985; Glenn et al., 2002; Jordan et al., 1992; Taft, Street,

Marshall, Dowdall, & Riggs, 2007; Verbosky & Ryan, 1988), which is, in turn, associated with increased distress in partners (e.g., Solomon et al., 2008). Additional research has shown that of the PTSD symptom clusters, hyperarousal symptoms are most strongly linked with increased aggression in veterans (Evans et al., 2003; Solomon et al., 2008; Taft et al., 2007). Moreover, veterans' self-reported anger and/or aggression mediates the association between their hyperarousal symptoms and their relationship satisfaction (Evans et al., 2003; Solomon et al., 2008).

#### 4.3.2.2 Recent Research

The analyses by Rodrigues (2012) supported this general trend. In her model, hyperarousal was modeled as dysphoric arousal and anxious arousal (using the five-cluster model described by Elhai et al., 2011). Both self-reports and partner-reports of veterans' aggression were posited as mediators of the association between these two clusters and the relationship satisfaction of both partners. In this model, neither the anxious arousal cluster nor the dysphoric arousal cluster exhibited significant direct effects on either partner's relationship satisfaction. Symptoms of anxious arousal, however, exerted a significant indirect effect on relationship satisfaction in partners via partner-reports of veterans' aggression. Thus, these findings contributed to the growing evidence that hyperarousal symptoms contribute to interpersonal problems primarily via other mechanisms such as aggression. Reduction of such symptoms would potentially protect military couples from significant distress, including physical or psychological aggression. Moreover, the findings again suggest that also obtaining *partners*' perceptions of veterans' behaviors aids in understanding the distress that partners experience. Finally, the findings again reinforce the interconnections of distress in veterans and partners that were laid out in the CATS model, and point to more specific behaviors within the CBI model that help explain the links between emotional and relationship distress in both partners.

### *4.3.3 Partners' Behaviors*

#### 4.3.3.1 Overview

In addition to the roles that veterans' symptoms and behaviors play in the development of partners' distress, Renshaw and colleagues (2011) posited that partners' own behaviors can sometimes directly (if inadvertently) exacerbate veterans' PTSD symptoms and, thus, increase their own distress. For instance, partners may engage in accommodation of veterans' situational avoidance by taking over veterans' responsibilities and allowing the avoidance of places and activities to continue (Monson et al., 2010). Moreover, partners may accommodate veterans' hyperarousal symptoms or aggression by "walking on eggshells" and avoiding

controversial discussions (Maloney, 1988). Of note, although family accommodation of symptoms has been empirically studied more extensively in pediatric obsessive compulsive disorder and other anxiety disorders (e.g., Amir, 2000; Calvocoressi et al., 1995; Lebowitz et al., 2013), anecdotal evidence is building related to the phenomenon of accommodation in PTSD (Fredman, Vorstenbosch, Wagner, Macdonald, & Monson, 2014). Again, this behavioral response by partners can perpetuate PTSD symptoms, increase caregiver burden in partners, and decrease overall relationship satisfaction. In contrast, partners who refrain from accommodating the symptoms and, rather, promote exposure to feared situations and emotions in veterans are more likely to have healthy, satisfied relationships. Consequently, both veterans' and partners' behaviors play a role in partner distress/resilience in the context of PTSD.

To date, only one published empirical article has addressed partner accommodation of PTSD symptoms (Fredman et al., 2014). In a study of 46 treatment-seeking couples, partners' accommodation of PTSD symptoms was positively associated with patients' self-report of depression and anger, as well as partners' own depression and anger. Additionally, partners' accommodation of PTSD symptoms was negatively associated with partners' relationship satisfaction, above and beyond their own psychological distress and their perceptions of patients' PTSD symptoms. The most typical examples of accommodation in this sample were "tiptoeing" around the veteran with PTSD so as not to provoke anger, and refraining from openly communicating about thoughts and feelings to avoid upsetting the veteran with PTSD. The results suggest that, although such behaviors may be intended to reduce distress in the near term, they may contribute to greater suffering. Moreover, couples in which partners refrain from accommodating PTSD symptoms may be more resilient to the relationship distress commonly found in the context of PTSD. Further research on this issue appears warranted.

### *4.3.4 Partners' Cognitions*

#### 4.3.4.1 Overview

Renshaw and colleagues (2011) proposed that PTSD-related couple distress likely involves the role of partners' perceptions of and attributions for veterans' PTSD symptoms and functioning. One way in which this may occur is if partners of symptomatic veterans perceive high levels of symptoms while veterans do not. In such situations, partner distress may increase, perhaps because of disagreements about those symptoms. Conversely, if partners were in agreement about high symptom levels, partner distress may be lower, due to a unified understanding of the veteran's struggles. Empirical evidence in two separate samples had offered some support for this hypothesis (Renshaw, Rodebaugh, & Rodrigues, 2010; Renshaw, Rodrigues, & Jones, 2008). A second way in which cognitions might play a role is via partners' attributions for veterans' symptoms. Specifically, we posited that

partners would be less distressed by PTSD symptoms expressed by veterans if they were able to attribute them to external events (e.g., an experience the service member had while deployed) rather than internal characteristics (e.g., character weakness). This hypothesis was supported by preliminary findings in our initial study of 50 National Guard service members (Renshaw et al., 2008), which revealed that the PTSD symptoms expressed by veterans were related to lower distress in partners only when partners believed that veterans had experienced low levels of combat while deployed. When partners believed that veterans had substantial combat experience, there was no association between the severity of veterans' PTSD symptoms and partners' distress.

#### 4.3.4.2 Recent Research

In a subsample of the 219 OIF/OEF-era National Guard service members and partners described above, Renshaw and Campbell (2011) explored partners' perceptions of veterans' deployment experiences as a moderator of the association of (a) overall PTSD symptoms and (b) specific PTSD symptom clusters with partners' relationship satisfaction and psychological distress. In a multivariate structural equation model, we found no moderating effect on the association of overall PTSD with partner distress. However, when we examined moderation of the associations of individual symptom clusters with partner distress, we obtained results consistent with previous findings (Renshaw et al., 2008). Specifically, the emotional numbing/withdrawal cluster was the only symptom cluster to be significantly associated with partner distress, and this association was moderated by partner perceptions of deployment experiences. When partners perceived that veterans had experienced high levels of combat or traumatic post-battle experiences, the negative association between veterans' emotional numbing/withdrawal symptoms and their partners' relationship distress was attenuated.

Using a different approach to examine the possible impact of attributions, Renshaw and Caska (2012) explored the associations of partners' perceptions of specific clusters of veterans' PTSD symptoms with partners' relationship distress. Previous research with family members of individuals with schizophrenia had revealed that positive symptoms of schizophrenia (e.g., hallucinations and delusions) were much more weakly associated with relationship distress than negative symptoms (e.g., flat affect, anhedonia) (Hooley, 1987). Hooley (1987) explained these results in the context of attributions, arguing that positive symptoms are inarguably due to a disorder and, thus, less distressing, whereas negative symptoms might be seen as much more controllable or intentional. In this context, we hypothesized that reexperiencing symptoms would be most clearly reflective of an overarching pathological reaction to an external event (i.e., similar to PTSD), whereas symptoms of numbing/emotional withdrawal would be least clearly linked with a PTSD-like reaction to a trauma (Renshaw & Caska, 2012). Thus, we examined the simultaneous associations of partners' perceptions of veterans' reexperiencing symptoms, emotional numbing/withdrawal symptoms, and hyperarousal symptoms with

partners' psychological and relationship distress. We expected that perceptions of emotional numbing/withdrawal would be associated with greater distress, whereas perceptions of reexperiencing symptoms would potentially be associated with *lower* distress (when examined simultaneously with perceptions of other symptoms). Indeed, in both the sample of 258 partners of National Guard/Reserve service members we collected *and* the sample of 465 partners who participated in the National Vietnam Veterans Readjustment Study (NVVRS; Kulka et al., 1990), this precise pattern was obtained. Specifically, in both samples, partner perceptions of withdrawal/numbing symptoms in veterans were positively related to partners' relationship and psychological distress, but perceptions of reexperiencing symptoms were significantly, *negatively* related to relationship distress (such perceptions were not significantly related to psychological distress).

Finally, Renshaw, Allen, Carter, Markman, and Stanley (2014) measured partners' explicit attributions for veterans' symptoms. In a sample of 482 civilian wives of active duty soldiers in the US Army, we assessed the marital satisfaction of the partners as well as their perceptions of veterans' combat experiences and PTSD symptoms, and partners' explicit attributions for such symptoms. The attribution measure included two items assessing internal attributions for symptoms (e.g., the symptoms are due to something about the personality of the service member) and two items assessing external attributions for symptoms (e.g., the symptoms are a reaction to a specific event).

In this study (Renshaw et al., 2014), we again found that the association of perceptions of PTSD symptoms with marital satisfaction were weaker when partners perceived high levels of combat. Furthermore, as expected, perceptions of combat were significantly, positively associated with external attributions, and nonsignificantly, negatively associated with internal attributions. Thus, partners' perceptions of combat did seem related to external attributions for symptoms, as previously hypothesized (Renshaw et al., 2008, 2011; Renshaw & Campbell, 2011). Furthermore, this type of attribution appears related to relationship resilience in military couples. Moreover, these findings suggest that knowledge about veterans' experiences actually serves as a *buffer against* distress in partners, rather than a risk factor for greater distress via STS. However, greater research is needed about the level of detail to which partners are exposed and their consequent distress. It is plausible that a moderate level of information is optimally beneficial for partners, with too little information leaving them vulnerable to making internal attributions, and too much information leaving them vulnerable to developing STS. This question remains to be addressed in future empirical research.

In this same study (Renshaw et al., 2014), regressions of marital satisfaction onto perceived PTSD symptoms, attributions, and relevant interactions revealed that internal attributions were significantly, negatively associated with marital satisfaction, whereas external attributions were significantly, positively associated with marital satisfaction. Internal attributions also significant moderated the association of perceived PTSD symptoms with marital satisfaction, such that the association was stronger when wives made more internal attributions for symptoms (of note, however, no moderation was detected for external attributions). These results are

consistent with the notion that, when partners perceive external causes for veterans' PTSD symptoms (e.g., combat or deployment-related events), they may be less likely to blame the veterans for the symptoms, have a better understanding of the symptoms, and remain more satisfied in their marriages. Conversely, if a partner believes her spouse's PTSD symptoms are due to internal causes, she may fear that they represent a lack of love for her or an inability to cope with deployment, which may be associated with greater marital distress.

Finally, Renshaw and colleagues (2014) replicated and extended the analyses of Renshaw and Caska (2012). Once again, when examined simultaneously, perceptions of withdrawal/numbing symptoms were negatively associated with marital satisfaction, whereas perceptions of reexperiencing symptoms were positively associated with marital satisfaction. Furthermore, as Renshaw and Caska (2012) had speculated, reexperiencing symptoms were positively linked with external attributions and negatively linked with internal attributions for symptoms, whereas emotional numbing/withdrawal symptoms exhibited the opposite pattern of associations.

In sum, this latter study offers the first empirical confirmation of the hypothesized role of attributions from prior studies. On the whole, these results largely support the role of intrapersonal cognitions suggested by the CBI model, as well as communication (about deployment experiences, for instance) suggested by the CBI and CATS models, in the processes by which couples are resilient or vulnerable to distress. However, longitudinal research is still needed to determine directionality in these associations. If attributions are indeed found to be predictive of future relationship functioning in the context of PTSD symptoms, there would be implications for working with partners of veterans in both prevention and treatment contexts. For instance, in a prevention context, military partners could be given information about PTSD to help them better explain symptom-related behaviors exhibited by veterans and hopefully minimize the internal attributions crafted by the partners. In a treatment context, therapists could explicitly inquire about partners' attributions for symptoms and provide psychoeducation about PTSD when necessary. Additionally, couples could be encouraged to communicate (first within the "safe space" of the therapy session, later on their own) about their perceptions of symptoms and the causes of those symptoms to reach mutual understanding.

### *4.3.5 Couple-Level Variables: Communication*

#### 4.3.5.1 Overview

In our earlier conceptualization of partner distress (Renshaw et al., 2011), our focus was on individual factors in either veterans or partners that might influence the development of distress in partners. However, there are also dyad-level processes that might substantially influence those individual-level factors. For instance, the amount and type of intimate communication within couples may alter the types of

attributions partners create to make meaning of veterans' PTSD symptoms. As an example, if veterans are reticent to discuss any aspect of their deployment with their romantic partners, partners have less information to guide their attributions for symptoms. Conversely, moderate levels of deployment-related communication may help partners to feel closer to or better understand veterans. Other theories (e.g., STS) posit that communication about deployment can prompt PTSD-like symptoms in partners when veterans are themselves symptomatic (e.g., Lev-Wiesel & Amir, 2001). Moreover, general (i.e., non-deployment-related) relationship communication may be altered in symptomatic couples in ways that perpetuate or increase distress, as described in the CBI model of distress transmission in the context of PTSD. For instance, veterans may "shut down" due to emotional numbing symptoms, or may respond with frequent anger or aggression. However, there have been relatively few investigations of these types of dyad-level processes. Below, we report the results of two recent studies from our laboratory that address these issues.

#### 4.3.5.2 Recent Research

Using data from 465 couples in the NVVRS, we explored the roles of communication in general and communication specifically about deployment experiences in relation to the psychological and relationship distress both partners experience (Campbell & Renshaw, 2012). Consistent with prior research, we found that both veterans' PTSD and couples' general relationship communication exerted significant main effects on partners' relationship distress in the expected directions. In the same model, deployment-related communication and interactions of either type of communication with veterans' PTSD were nonsignificant. However, the pattern was different when exploring partners' *psychological* distress. Once again, veterans' PTSD and couples' general communication exerted significant main effects in expected directions, but veterans' PTSD symptoms moderated the association of deployment-related communication with partners' psychological distress. The moderation was such that, when veterans had low levels of PTSD symptoms, the association of deployment-related communication with partners' distress was nonsignificant and negative. In contrast, when veterans had higher levels of PTSD symptoms, the association of deployment-related communication with partners' distress was significantly positive. Thus, results suggest that, when veterans are highly symptomatic, their discussion of deployment-related events with their partners is associated with *increased* psychological distress in partners, possibly reflecting a process similar to that posited within STS. Conversely, when non-symptomatic veterans discuss deployment-related events with their partners, this process may promote understanding and intimacy, thus mimicking the effects of communication in general. These results highlight the complexity of communication in couple functioning, and point to the need for additional research with veterans of more recent operations and their partners to establish appropriate levels of deployment-related communication for optimal relationship and psychological health.

Another possible mechanism of lower relationship satisfaction in military couples where one member has PTSD is physiological response to relationship conflict (e.g., arguments). Couples in which one member is diagnosed with PTSD may suffer from impaired conflict-related communication and heightened physiological reactivity in response to conflict (Taft, Watkins, Stafford, Street, & Monson, 2011), thus exacerbating the negative effects of conflict. Caska and colleagues (2014) explored this issue in a recent study of 32 couples in which a male veteran was diagnosed with PTSD and 33 control couples. Caska and colleagues used a quasi-experimental design to measure the effects of conflict discussions on the cardiovascular and emotional health of both partners. Results showed that, compared to the control group, both veterans and partners in the PTSD group showed greater reactivity in their anxiety and especially in their anger in response to the conflict discussions. Thus, increases in *both* partners' anger in response to conflictual communication may be a key contributing factor to understanding the overall psychological distress that partners suffered. Moreover, psychophysiological data showed that both partners in the PTSD group showed greater increases in cardiovascular reactivity to the conflict discussions than the control group. In fact, the *partners* in the PTSD group showed greater reactivity than the veterans in that group. These data suggest that partners of veterans with PTSD are at particularly high risk for physical health difficulties resulting from the high levels of couple conflict to which they are exposed. Thus, interventions that both address the level of relationship conflict and teach veterans and partners skills to reduce physiological arousal would promote resilience in traumatized couples.

Taken together, these new studies on the role of communication in PTSD couples suggest that clinical interventions should pay special attention to both the style and content of the discussions initiated by couples. Excessive communication about deployment-related events may be detrimental to couples where the veteran has significant symptoms of PTSD, but further information is needed to understand these effects. Conversely, such communication may be helpful and productive for subclinical couples, and there may also be conditions under which such communication can be beneficial for clinical couples. Finally, interventions geared toward improving conflict resolution seem especially warranted for couples where one or both partners are diagnosed with PTSD. Future research should continue to utilize objective data when possible in investigating couple-level processes such as communication in the context of PTSD.

### *4.3.6 Couple Level Variables: Sexual Functioning*

An additional dyadic variable that likely impacts the development of distress in partners is couples' sexual functioning. Previous research has explored sexual functioning largely from the perspective of veterans. Such research has shown that veterans with PTSD experience greater sexual dissatisfaction and dysfunction than veterans without PTSD, with conflicting data on impairment in sexual desire

(e.g., Cosgrove et al., 2002; Dekel & Solomon 2006; Hirsch, 2009; Hosain et al., 2013; Kaplan, 1989; Letourneau, Schewe, & Frueh, 1997). In a sample of 197 veterans, Nunnick and colleagues (2010) found that the emotional numbing symptom cluster of PTSD was most directly associated with deficits in sexual functioning for veterans. Additionally, in 125 prisoners of war (POWs), Zerach, Anat, Solomon, and Heruti (2010) found that PTSD was associated directly with POWs' dyadic adjustment and sexual satisfaction, and indirectly with those constructs via POWs' marital intimacy. Finally, in a sample of 45 veterans and their romantic partners, Nelson Goff and colleagues (Nelson Goff, Crow, Reisbig, & Hamilton, 2007) found that veterans' self-reported sexual problems were among the most significant predictors of relationship dissatisfaction in veterans but not partners.

Research that continues to explore the impact of veterans' PTSD on sexual functioning in both partners appears to be warranted. As noted in Hirsch (2009), however, sexual functioning is challenging to study in veterans with PTSD, as comorbidities with alcohol abuse, major depression, and post-concussive disorders are common, and studies rarely control for those comorbidities to isolate the effects of PTSD on sexual functioning. Nonetheless, clinical data indicate that couples in which one member has deployment-related PTSD do experience difficulties in their sexual relationships, which play a role in overall relationship health.

Together, the studies suggest that PTSD (especially the withdrawal/numbing cluster of symptoms) is associated with impairments in sexual functioning, that feelings of intimacy play a role in veterans' sexual functioning, and that sexual functioning is significantly related to veterans' overall relationship health. These studies support the CATS model's supposition that individual biological factors (e.g., sexual functioning) and couple-level factors (e.g., intimacy) play a role in overall relationship health in the context of PTSD. Moreover, the studies bolster the CBI model's emphasis on intimacy and trust as relevant dyadic and individual-level processes in the perpetuation of PTSD and relationship distress. Clinically, it appears that trust, intimacy, and emotional and physical safety may be relevant targets to improve sexual functioning for couples in which one member has PTSD.

## 4.4 Conclusions and Future Directions

Using a primarily cognitive-behavioral interpersonal framework, the research reviewed above highlights three prominent themes in relationship distress of traumatized veterans and their partners. First, impaired marital communication stemming from emotional numbing symptoms plays a significant role in the transmission of distress. Second, partners' misunderstanding of deployment experiences and PTSD symptoms can be associated with making internal attributions for PTSD symptoms, which are subsequently associated with greater distress in partners. Third, research has illuminated physiological changes associated with PTSD, including deficits in sexual functioning for veterans with emotional numbing and heightened physiological arousal for both partners in the context of marital conflict.

When exploring these themes, research that gathers data from both members of the couple allows for the most accurate understanding of the phenomena. Though research on the transmission of distress in the romantic relationships of traumatized veterans has made great strides, there are still numerous areas that would benefit from additional research. Moreover, clinical work can be informed by the research presented above. Suggestions are presented below.

### *4.4.1 Recommendations for Future Research*

1. Gather data from both members of the couple. Theoretical models such as the CATS and the CBI model suggest that each partner's thoughts and behaviors heavily influence the other; thus, study designs would do well to include these two perspectives. In addition, researchers need to account for the non-independence of data from two members of the same couple appropriately when analyzing data (see, for example, Kenny, Kashy, & Cook, 2006).
2. Assess partners' own trauma histories. Clinical work often indicates that partners bear their own personal (non-military) trauma histories, but much research on partners assumes that their distress largely results from living with or caring for traumatized veterans. For research to be most accurate, spouses/partners' own trauma histories should be assessed. This issue is particularly relevant when examining the phenomenon of secondary trauma, as symptoms should be assessed via specific references to veterans' traumatic events, rather than partners' own trauma (for example, see Zerach et al., 2014.)
3. Gather data that go beyond self-report. Experimental designs, observational data (e.g., clinician-administered interviews, objective coding of behaviors), and other forms of objective data (e.g., psychophysiological data) are needed to counterbalance the predominant reliance on self-report data.
4. Gather data that can provide insight into causal processes associated with couple distress and the dynamics of change in distress over time. Longitudinal designs and novel methodologies, such as daily diary studies and ecological momentary assessment of phenomena, could provide micro-level insight into the daily functioning of couples, thereby identifying specific mechanisms and areas in need of intervention.
5. Study designs should aim to isolate novel mechanisms of partner distress, in addition to replicating results with known mechanisms. Great strides have been made in identifying specific mechanisms of distress, such as reduced emotional disclosure by veterans, partners' attributions for symptoms, and heightened levels of conflict and physiological reactivity on the interpersonal level. However, additional mechanisms of distress certainly exist. For instance, partners' accommodation of veterans' PTSD symptoms has been clinically identified as a potential mechanism of distress, but empirical tests of that observation are largely lacking (but see Fredman et al., 2014). Similarly, sexual functioning has been examined in only a small number of studies largely focused on the

functioning of symptomatic veterans, requiring inference of effects on partners (e.g., Cosgrove et al., 2002; Hirsch, 2009; Letourneau et al., 1997; Zerach et al., 2010). Research that identifies mechanisms on a couple level will strengthen our understanding of distress in military couples.

6. Couples' peri-deployment experiences, subclinical symptoms of PTSD, and other psychological and relationship distress are likely fruitful areas of future research. Much of our knowledge of partner distress stems from data collected well after deployment or with highly symptomatic veterans. However, phenomena such as impaired communication and perceptions of combat may have their roots in patterns established during deployment or before symptoms reach peak levels. Research that helps us to better understand how military couples function in these pre-crisis periods will likely be highly informative in identifying factors associated with the risk of developing clinical levels of PTSD in veterans, psychological distress in partners, and relationship distress for both members of the couple.
7. With the changing landscape of relationships in the military, research should attend to couple configurations other than male veteran/female partner. Congress recently voted to repeal military policies prohibiting disclosure of same-sex relationships; thus, the numbers of military veterans willing to report on their same-sex relationships are likely to increase. Consequently, research on couple dynamics in same-sex relationships is critical. Moreover, as female veterans continue to participate in combat and related activities, the number of female veteran/male partner dyads is likely to grow. In addition, as studies have demonstrated gender differences in the expression of PTSD symptoms (Hall, Elhai, Grubaugh, Tuerk, & Magruder, 2012; King, Street, Gradus, Vogt, & Resick, 2013), research on the impact of these different symptom configurations on romantic relationships is still needed. Finally, dual-military couples are an understudied yet important component of our armed services (approximately 2.8 % of all active duty members according to 2009 DoD estimates.)
8. Existing research on the interpersonal effects of PTSD has largely used samples of predominantly White male veterans. Given the diverse racial and ethnic landscape of the U.S. military, research including representative samples of other racial/ethnic groups is absolutely critical.

### *4.4.2 Recommendations for Clinical Practice*

1. Partners should be encouraged to participate in individual treatment of PTSD, given the important role they may play in recovery from PTSD. Even if partners are not included in treatment, they should participate in the PTSD assessment process. Often, their perceptions of symptoms and related behaviors (e.g., substance use) may provide more accurate information than information provided by the symptomatic individual.

2. Couples entering conjoint therapy for PTSD should have individual assessments of their personal trauma histories. Such assessment can inform clinicians' understanding of the complicated trauma systems that may be at play.
3. Partners' perceptions of veterans' combat and deployment experiences should be assessed and reviewed to help them make sense of their interpretations of veterans' PTSD symptoms. Additionally, the nature and amount of communication about deployment should be continually assessed and monitored, and both members of the couple should be encouraged to discuss the effect of this communication on their emotional health. Providing partners with psychoeducation about PTSD and fostering appropriate communication about deployment experiences in therapy may attenuate some of the negative effects of these attributions.
4. Partners' behavioral accommodation of PTSD symptoms should be assessed and subsequently addressed in treatment as appropriate.
5. Clinicians would benefit from being mindful of physiological changes, such as sexual dysfunction in veterans with emotional numbing, or heightened physiological arousal during conflict, in the course of their treatment. Greater awareness of health risks associated with the emotional distress of military partners could lead to more comprehensive interventions (e.g., meditation, deep breathing, couple-based physical activities) aimed to reduce both emotional and physical impairment in couples in which one member has PTSD.
6. Given the frequent progression of subclinical posttraumatic stress symptoms into diagnostically significant PTSD, peri-deployment and immediate post-deployment periods may be fruitful avenues for early intervention of PTSD and couple-level distress. For promising examples of such clinical intervention efforts, see Brunet, Des Groseilliers, Cordova, and Ruzek (2013), Cordova, Ruzek, Benoit, and Brunet (2003), and Gottman, Gottman, and Atkins (2011).

Research on partner distress in the context of combat-related PTSD has provided exciting and needed information that can be used to refine exiting PTSD treatments for veterans and their romantic partners. By focusing on improving communication between veterans and their partners, promoting awareness and understanding of PTSD symptoms, reducing well-intended but ineffective behavioral accommodation of symptoms, and reducing veterans' anger and aggression, couple therapy and research can weaken the cycle of distress that can occur within veterans and partners and strengthen military families. Future research that addresses the recommendations offered above has the potential to further develop a truly comprehensive model of couple distress to best aid military romantic partners and veterans.

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# Chapter 5
# War Captivity: Associations with Spouses' Distress and Marital Relationships

**Gadi Zerach and Zahava Solomon**

**Abstract** In this chapter we present cumulative evidence about the psychological and interpersonal ramifications of war captivity on Israeli former prisoners of war (ex-POWs). Specifically, we address the associations between ex-POW husbands' posttraumatic distress (i.e., PTSD) with their wives' secondary traumatization. We also present findings from recent studies of both partners assessing their mutual and bidirectional influences regarding both distress and marital adjustment. Clinical implications and directions for future research in the field are presented.

**Keywords** Prisoner of war • Marital adjustment • Posttraumatic stress disorder • Secondary traumatization • Dyadic research

## 5.1 Introduction

> I don't have much of a life…I mean, in our house it's always about the captivity… He is simply a wonderful husband and a great father…but there are things I learned to forbear in order to maintain the marriage, that's the option… sometimes I feel like I'm talking and there is no one to talk to…it's not easy. Sometimes I say okay, he needs to calm down, to be by himself. So I get up and do other things… I've learned to refrain from reacting, even though in most cases maybe he's not right. But there is nothing really you can do. (Ex-POW wife's quote; Dekel, Goldblatt, Keidar, Solomon, & Polliack, 2005)

This statement describes some of the feelings and experiences of the wife of a traumatized ex-POW from the 1973 Yom Kippur War, which are typical of many wives of former POWs pertaining to the effect of their husbands' prior captivity on their lives.

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### 5.1.1 Stressors of War Captivity

War captivity is one of the most brutal man-made traumas. During captivity, prisoners of war are usually held in poor conditions of sanitation and environment and are continuously deprived of sufficient amounts of food, water, and sleep. POWs are also subjected to brutal torture and interrogations, humiliation and violence. Mock executions are often carried out; the use of solitary confinement is pervasive. Deprivation of benevolent human interaction enhances the captive's dependency upon his captors. The lack of social support, denial of privacy, and continuous torture and humiliation may cripple one's self-identity and potentially pave the way for a breakdown of the defensive mental system (Rintamaki, Weaver, Elbaum, Klama, & Miskevics, 2009).

### 5.1.2 Psychiatric Sequela of Captivity

The harsh stressors of captivity are recognized as potent pathogenic experiences giving rise to psychological and interpersonal problems. The most common and conspicuous psychiatric sequela of captivity is Posttraumatic Stress Disorder (PTSD). PTSD is a reactive psychopathological response to a life threatening traumatic event, such as threatened death, injury and sexual violence. According to the DSM-5 (American Psychiatric Association, 2013), PTSD is classified as a trauma and stressor-related disorder and consists of four symptom clusters: (1) Intrusive reexperiencing symptoms; (2) Persistent avoidance of stimuli associated with the trauma; (3) Negative alterations in cognitions and mood that are associated with the traumatic event; and (4) Alterations in arousal and reactivity. The symptoms must persist for more than 1 month and need to contribute to significant symptom-related distress or functional impairment.

A considerable body of research conducted in various armies around the globe and following numerous wars has consistently documented elevated rates of PTSD among ex-POWs. Moreover, the posttraumatic residues of war captivity have been observed over very long periods of time in post captivity, up to five decades after homecoming (e.g., Kluznik, Speed, Van Valkenburg, & Magraw, 1986; Sutker, Winstead, Galina, & Allain, 1991). In fact, the PTSD rates in ex-POWs are quite high with some studies indicating that up to 88 % of ex-POWs reported substantial PTSD symptoms (Engdahl, Dikel, Eberly, & Blank, 1997; Port, Engdahl, & Frazier, 2001; Rintamaki et al., 2009).

Put together, this body of research attests to the entrenched and long enduring psychiatric effects of captivity. At the same time, however, most of this research is retrospective and some of the studies did not include control groups. Therefore, the scientific validity of these studies is unfortunately limited. To overcome these methodological limitations and increase our knowledge regarding the psychosocial effects of captivity, our research team from the Israel Defense Forces (IDF) and Tel Aviv University conducted a controlled longitudinal study targeting the Israeli POWs who fell into captivity in Egypt and Syria in 1973.

### 5.1.3 *Longitudinal Study of Israeli Ex-POWs of the Yom Kippur War*

The 1973 Yom Kippur War was one of the most traumatic wars in Israel, with thousands of casualties and hundreds of POWs. Upon homecoming, unlike their counterparts in the US and Europe, these Israeli ex-POWs did not return to tranquility. Instead, like other Israelis, they have been repeatedly exposed to frequent wars and terrorist attacks after repatriation. These unique circumstances compelled us to examine the long-term mental effects of war captivity among Israeli ex-POWs. In this chapter we will review a number of existing studies that are part of our prospective longitudinal controlled large-scale research of the Yom Kippur cohort, focusing on the effects of captivity on ex-POWs' distress, their wives secondary traumatization and their marital relations. We will also present studies that examined the mutual and bidirectional influences of both partners' distress and psychological characteristics on their spouses' distress and marital relations. In the following section we present the sample characteristics.

## 5.2 Sample and Design Characteristics

### 5.2.1 *Participants: Veterans Sample*

A sample of combat veterans who participated in the 1973 Yom Kippur War was followed-up over 17 years with assessments at three time points: 1991 (T1), 2003 (T2), and 2008 (T3). The points of measurement were chosen based on funding and infrastructure constraints.

The veterans sample was comprised of two groups: individuals who were captured during the war and consequently subjected to torture, harassment and humiliations (ex-POWs); and veterans who participated in the same war but were not taken captive (controls). Both groups were exposed to battlefield stressors as active combatants and encountered threats induced by battle of death and injury. Groups were matched on military background and socio-demographic status with no differences in combat exposure and pre- and post-war negative life events (see Dekel, Ein-Dor, & Solomon, 2012).

*Ex-POW group*. According to Israel's Ministry of Defense, 240 soldiers from the Israeli Army land forces were captured during the Yom Kippur War. Participants were either captured by the Egyptians and held for 6 weeks, or imprisoned by the Syrians and held for 8 months. Of these, 164 ex-POWs participated in the first assessment: (T1; 10 could not be located, 4 had died, and 6 could not participate due to a deteriorated mental status). At T2, 103 agreed to participate (71.5 % response rate). For the third assessment, the original group of 240 ex-POWs was contacted again: 11 could not be located, 20 had died, 11 were living abroad, and 6 could not participate due to their mental status. At T3, 183 agreed to participate which constituted a 76.2 % response rate of the target population.

*Control group*. 280 veterans were sampled from Israel Defense Forces (IDF) computerized data banks. These target groups of veterans were drawn from a pool of combat soldiers who fought in the same units as the ex-POWs but were not held captive. In T1, 185 control combatants participated. Of the 185 participants in T1, 41 could not be located and 1 had died. Of the remaining 143 controls, 106 participated in T2 (74 % response rate). For the third assessment, the original group of 280 combatant controls was contacted again with 118 combatants agreeing to participate in T3 (42 % of the original target group response rate). For the remainder, 20 could not be located, 5 had died and the remainder refused to participate. The two groups were matched on military background and socio-demographic status. While it is difficult to control for the subjective stressfulness of any combat experience, the sampling procedure used here ensured that soldiers in both groups were exposed to a similar level and type of objective combat stress.

Ex-POWs and controls did not differ at T3 in age, education, religiosity or income. The mean age of the participants was 58.62 (SD = 4.56), and mean years of schooling was 13.97 (SD = 3.93). Over 60 % of the participants in both groups (61.7 %) defined themselves as secular; 16.3 % assessed their income as lower than average, 25.3 % as average, 26.7 % as a somewhat higher than average, and 29.5 % as much higher than average. No significant differences were found between those who participated in the follow-up assessments with regard to rank, age, education, and the level of PTSD in 1991.

### *5.2.2 Participants: Wives' Sample*

Data were also collected from the wives of both ex-POWs and controls at two points in time: 2004 (T1) and 2011 (T2).

*Ex-POWs' wives*. Of the 144 ex-POWs who took part in the second measurement (2003), 111 were married or had a partner. Eighty-two of their wives participated in the first wave (2004; 74 % response rate). Of the 183 ex-POWs who participated in 2008 measurement point, 147 were married or had a partner and 116 of their wives participated in the second wave (2011; 79 % response rate).

*Control wives*. Of the 143 combat veterans who participated in 2003, 102 were married or had a partner and 74 of these wives agreed to participated in the first wave (2004; 73 % response rate). Of the 118 combat veterans who partook in the 2008 assessment, 103 were married or had a partner. Fifty-six of these spouses participated again in the second wave (2011; 54 % response rate).

The demographic data obtained at T2 revealed no significant differences between the groups of wives in terms of country of birth, age, number of children, years of marriage/cohabitation, and employment status. Spouses' ages ranged from 43 to 79 years ($M = 58.28$, SD = 5.79), the duration of their marriage/cohabitation ranged from 2 to 60 years ($M = 34.20$, SD = 9.19), and they had an average of 3.23 children (SD = 3.00). Of all the spouses, 47.7 % had full-time jobs, 20.9 % had part-time jobs, and 31.4 % were unemployed. However, the groups

differed in religiosity and level of education. Spouses of ex-POWs were more likely to describe themselves as religious (44 % vs. 28.6 % among controls wives) and had fewer years of education ($M = 14.16$, SD = 3.20) compared to control spouses ($M = 15.50$, SD = 2.92).

## 5.3 Procedure

The names of ex-POWs were passed on by the IDF authorities as part of the periodic examination of veterans after their military service. We contacted participants by telephone and, after explaining the purpose of our study, asked them to take part. Questionnaires were administered in participants' homes or in other locations of their choice. Before filling out the questionnaire, participants signed an informed consent form. The wives samples were located through their husbands, who had participated in a previous study conducted by our research group. We used our former contact information records of those participants in order to contact their spouses. We sent the potential participants a letter in which we introduced the study and informed them that research assistants (licensed social workers in their graduate studies) would contact them in the following days. After receiving an explanation of the aim of the study, the wives who agreed to participate were offered the option of filling out research questionnaires either in their homes or at a location of their choice. Before filling out the questionnaires, each participant signed an informed consent form. Approval for this study was given by the IDF and Tel Aviv University ethics committee.

### *5.3.1 Measures*

Both ex-POWs, the control group and their spouses completed the following self-report scales: (a) *demographic questionnaire*; (b) *measures of mental health*: The PTSD inventory (Solomon, 1993), adaptation of the Revised Structured Interview for Disorders of Extreme Stress-NOS (SIDES-R; Van der Kolk, 2002), the Symptom Checklist-90-R (Derogatis, 1977), World Assumptions Scale (WAS; Janoff-Bulman, 1989), and Social Functioning scale (Solomon, 1993). (c) *measures of marital relations*: the Dyadic Adjustment scale (Spanier, 1976), the Conflict Tactics Scale (Straus, 1979), the Index of Sexual Satisfaction (ISS; Hudson, Harrison, & Crosscup, 1981); and the Need for Intimacy scale (Sharabany, 1994) (d) *measures of psychological factors*: The Family Forgiveness Scale (FFS; Pollard, Anderson, Anderson, & Jennings, 1998), Differentiation of the self (Appel, 1996), The Self-Disclosure Index (SDI; Miller, Berg, & Archer, 1983), Experiences in Close Relationships Scale (ECR; Brennan, Clark, & Shaver, 1998), Attachment anxiety and avoidance (Mikulincer, Florian, & Tolmacz, 1990), and the Family Boundaries scale (Zerach, Greene, & Solomon, 2014).

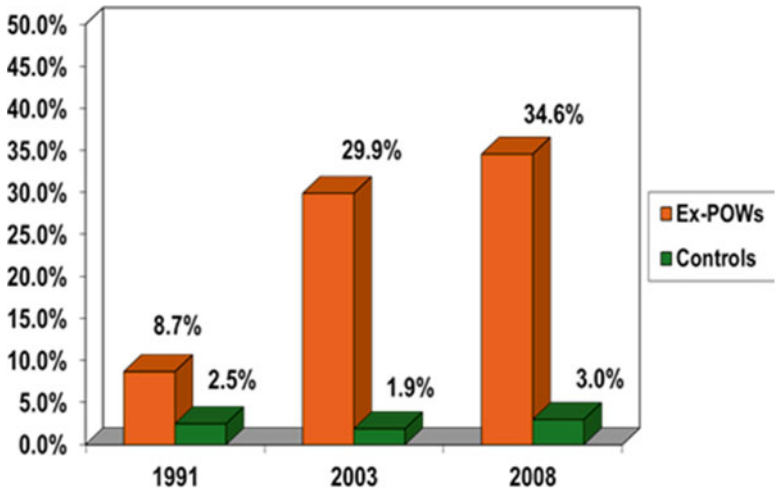


**Fig. 5.1** Rates of PTSD among ex-POWs and controls in 1991, 2003, and 2008

#### 5.3.1.1 Prevalence of PTSD in Israeli Ex-POWs

The fundamental research question with which we began our studies was whether ex-POWs should be considered a high-risk population for stress residues and, if so, for how long would these psychopathological effects last. Specifically, we assessed the prevalence rates of self-reported probable PTSD via the commonly used PTSD Inventory (Solomon et al., 1993), in ex-POWs and control veterans over a 17-year period (Solomon, Horesh, Ein-Dor, & Ohry, 2012). As can be seen in Fig. 5.1, the analyses revealed that at all time points more ex-POWs suffered from PTSD than the controls. Furthermore, as can be seen in Table 5.1, ex-POWs reported more PTSD symptoms at each time point. Specifically, the hyperarousal symptom cluster differentiated most between ex-POWs and controls at T2 and T3, followed by emotional numbing, intrusion, and active avoidance (Zerach, Greene, Ein-Dor, & Solomon, 2012).

Following this prospective pattern of results that show increased rates in PTSD among ex-POWs, we also asked participants to retrospectively recall periods in their lives when they had struggled with the residues of war captivity. Specifically, we asked the veterans to report about periods (in years) of "significant emotional distress." Interestingly, our results show a "U" shape curve of reported emotional distress. Thus, a higher percentage of ex-POWs reported significant distress in the first years after captivity followed by a decline in symptoms. However, during the later years as the veterans aged, they reported an increase in their experienced distress. These results are similar to retrospective accounts of WWII American veterans about their course of PTSD symptoms (Port et al., 2001). Moreover, not only did ex-POWs exhibit higher PTSD rates than comparable combat veterans who had not been incarcerated, but the course and trajectories of their PTSD also differed.

**Table 5.1** Means, standard deviations, and standardized canonical discriminant function coefficients for relative differences between ex-POWs and controls in PTSD

| | Ex-POWs | | Controls | | | |
|---|---|---|---|---|---|---|
| Measure | *M* | SD | *M* | SD | Loadings | *B* |
| Emotional numbing in T1 | 0.13 | 0.51 | 0.14 | 0.55 | –0.09 | –0.53 |
| Active avoidance in T1 | 0.23 | 0.63 | 0.19 | 0.52 | 0.39 | 0.16 |
| Intrusion in T1 | 0.50 | 1.10 | 0.33 | 0.85 | 0.84 | 1.14 |
| Hyperarousal in T1 | 0.56 | 1.14 | 0.48 | 1.14 | 0.31 | –0.23 |
| Emotional numbing in T2 | 2.25 | 1.58 | 0.41 | 0.96 | 0.78* | 0.32 |
| Active avoidance in T2 | 1.39 | 0.96 | 0.32 | 0.74 | 0.69* | 0.21 |
| Intrusion in T2 | 2.72 | 1.95 | 0.51 | 1.07 | 0.78* | 0.29 |
| Hyperarousal in T2 | 3.58 | 1.74 | 1.06 | 1.46 | 0.87* | 0.43 |
| Emotional numbing in T3 | 2.26 | 1.55 | 0.43 | 1.00 | 0.84* | 0.35 |
| Active avoidance in T3 | 1.35 | 0.99 | 0.34 | 0.60 | 0.73* | 0.27 |
| Intrusion in T3 | 2.64 | 1.98 | 0.42 | 1.09 | 0.82* | 0.31 |
| Hyperarousal in T3 | 3.30 | 1.70 | 1.08 | 1.59 | 0.84* | 0.30 |

*Note.* Higher significant loading values refer to heighten differences between classification groups
*POW* prisoner of war, *PTSD* postraumatic stress disorder
*$p < 0.001$

#### 5.3.1.2 Trajectories of PTSD

PTSD is a labile disorder as its symptoms wax and wane over time (e.g., Solomon, 1993). Clinicians and researchers have identified several trajectories in various populations (e.g., Blank, 1993; Bonnano et al., 2012). To assess PTSD trajectories in our study we examined only those 170 veterans who participated in all three assessments, of whom 106 were ex-POWs and 64 were controls. We identified the following PTSD trajectories: (1) "chronic PTSD," in which PTSD symptoms have been reported continuously at all three waves of measurement; (2) "delayed PTSD," defined as onset at any point in time after a period without PTSD symptoms (ex-POWs who did not report PTSD symptoms in the first wave of measurement, but did suffer from the disorder at the second and/or third measurements); (3) "recovery" group, individuals who reported PTSD in the first or second waves of measurement but not in the third wave; and (4) "resilience" group, individuals who did not report PTSD at any of the three waves of measurement.

Our results showed that 88.7 % of the controls were not classified as suffering from PTSD at any time point ("resilience" group). Only 4.8 % was classified as suffering from "delayed PTSD," 3.2 % had recovered from PTSD, and 3.2 % had "chronic PTSD." As can be seen in Fig. 5.2, only 26.6 % of the members of the ex-POW group were never classified as suffering from PTSD at any time point ("resilience" group). Sixty-seven percent (67 %) were classified as suffering from "delayed PTSD," 1.3 % had recovered from PTSD, and 5.1 % had "chronic

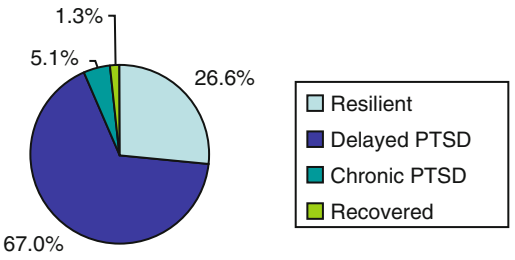


**Fig. 5.2** Trajectories of PTSD among ex-POWs

PTSD" (Solomon et al., 2012). Thus, the right hand of the "U" shape curve was also validated by these results, indicating that the majority of ex-POWs reported a delayed onset of PTSD ("delayed PTSD") trajectory over time.

#### 5.3.1.3 Complex PTSD

While PTSD is recognized as the most common disorder for traumatized individuals, it does not take into account the full complexity of adaptation to trauma. Several prominent clinicians (e.g., Herman, 1992a) and researchers (e.g., Ford & Kidd, 1998), have argued that the current diagnosis does not address the complicated and enduring symptomatology associated with exposure to prolonged and repeated traumas such as war captivity. To fill this gap, a new diagnosis termed "disorders of extreme stress not otherwise specified" (DESNOS) or "complex PTSD" (CPTSD) was suggested (Pelcovitz et al., 1997). CPTSD occurs following repeated and cumulative traumatic exposure, usually over a period of time and within a specific relationship context (Courtois, 2008). Compared with "simple" or type I trauma, individuals with CPTSD suffer from more severe and complicated symptoms and personality changes (Taylor, Asmundson, & Carelton, 2006; Terr, 1991).

In our study (Zerach & Solomon, 2014), we operationally defined CPTSD according to the DSM-IV field trial (Pelcovitz et al., 1997). Accordingly, CPTSD consists of chronic alterations in seven aspects of self-regulation and psychosocial functioning: (a) regulation of affect and impulses, (b) physical self-regulation (i.e., somatization), (c) attention or consciousness, (d) perception of perpetrator or perpetrators, (e) sense of self and identity, (f) relationships with others, and (g) systems of meaning or sustaining beliefs (i.e., hopelessness). The results of our study show that in T3, 13.1 % of the ex-POWs, compared to 1 % of controls, met the proposed criteria for self-reported CPTSD. Furthermore, ex-POWs reported significantly higher rates in all CPTSD symptom clusters and specifically high rates of alterations in relationships, alterations in systems of meanings and alterations in attention or consciousness, as compared to control veterans.

This series of findings suggests that war captivity is implicated in severe and debilitating psychological symptoms. While the doors of captivity may have opened years ago, many ex-POWs are still faced with the pathogenic effects of captivity on a daily basis. Furthermore, for many of these ex-POWs, the situation has become

even bleaker with time, as their mental and physical state has deteriorated more rapidly than their fellow non-captured combatants (Solomon et al., 2012). These results raise the question of why the psychological damage of captivity is so much deeper and enduring than that of combat, which is itself highly pathogenic.

Several explanations may be offered. One possible explanation is the doubling of the traumatic experience with captivity. For most POWs, the trauma of captivity follows on the heels of the trauma of combat. Captivity thus extends the duration of the traumatic experience and further draws on the soldier's already depleted coping resources (e.g., Ursano et al., 1996). As is well established, the longer a traumatic experience lasts, the more severe the ensuing psychiatric sequela is likely to be (Hunter, 1993). Furthermore, the powerful stress-mediating effect of unit cohesion and social support, derived from comrades and commanders, is well documented as a sustaining force for combatants (e.g., Steiner & Neumann, 1978). However, captivity renders the POW totally isolated and deprived of human compassion and support. The severity of captivity may thus be compounded by isolation and loneliness, leaving a more profound and enduring traumatic imprint.

One should also consider the special interpersonal characteristics of captivity; that is, the threat of combat to the life and physical integrity of the soldier is a relatively impersonal threat, in that it is directed towards whoever is in the line of fire and not at any particular soldier. Thus, there is no affront to the soldier's personhood, even if he or she is injured. The trauma of captivity, however, occurs within the relationship between the captives and their captors. The special torments of captivity are part of a planned and concerted effort to "break" the particular individuals and are intentionally inflicted on them by captors whom they may relate to on a daily basis and on whom they are dependent for survival. This relationship between captive and captor might leave a profound imprint with considerable implications for future interpersonal relationships.

A separate set of explanations should be given to the escalating PTSD symptoms over time and the high rates of delayed-onset PTSD among ex-POWs. The first explanation is related to the nature of our study design. Since the first assessment was conducted in 1991, we have no way of knowing exactly what occurred during the first 18 years since the Yom Kippur War. Thus, although we suggest that the first prospective measurement represents the "bottom" of the "U" curve, it is possible that at least some ex-POWs who were defined as "delayed PTSD" may have in fact suffered from PTSD many years prior.

Secondly, at the time of the second assessment, many of the veterans in this study were already going through the aging processes. There is considerable evidence, both from case studies (e.g., Pomerantz, 1991) and from empirical studies (e.g., Davidson & McFarlane, 2006), regarding the role of aging processes in triggering delayed-onset PTSD. At old age, one often has more opportunities to reminisce and review one's life, a process that is often accompanied by the recollection of early traumatic events. This may be compounded by events associated with aging, such as bereavement, disease, or retirement. These events may be particularly difficult for individuals who have suffered previous trauma as they may trigger painful memories (e.g., Solomon, 1993).

Thirdly, the increase in PTSD symptoms may also be attributed to the specific time in which the second assessment was conducted, i.e., in the midst of the Al-Aqsa Intifada—the violent armed conflict between Israel and the Palestinians. It is possible that the accumulation of stressful events in the midst of aging process rendered ex-POWs more vulnerable to the adverse psychological implications of their previous traumatic experiences. This was possibly aided by the increasing social legitimacy in Israel of ex-POWs to disclose their long concealed and unspoken captivity experiences and residues. Over the years, the ramifications of war captivity for the ex-POWs' intimate relationships and specifically the effect on their spouses was denied. However, the initiation of empirical studies focused on "secondary traumatization" of veterans' wives and the significant change in public discourse may have created a climate that enables the examination of the effects of captivity-related trauma on spouses' of ex-POWs.

### *5.3.2 The Associations between Husbands' Captivity Trauma and Their Wives' Distress*

Over the years, numerous empirical studies pointed to the negative associations between traumatic stress and posttraumatic symptoms with family relations and psychological distress of intimate partners (e.g., Lambert, Engh, Hasbun, & Holzer, 2012). However, in spite of the cumulative evidence about the negative ramifications of war captivity, particularly in the realm of interpersonal relationships, no study has systematically examined the specific influences of war captivity trauma on ex-POWs' spouses' psychological distress.

Over the last decade we have examined the associations between ex-POWs' psychological distress (i.e., PTSD) and their wives' psychological distress as reflected particularly in "Secondary Traumatization" (ST; Figley, 1986). The term "ST" has been used to indicate that people who come into close contact with a traumatized person may experience emotional distress and may display PTSD-like responses similar to those exhibited by the survivor (Figley, 1995). Adopting this perspective, we hypothesized that wives of ex-POWs would suffer a wide range of emotional and psychiatric symptoms, even though they were not directly exposed to the captivity trauma itself. It is worth noting that as the designs of our studies are correlative, we assessed the links between ex-POWs' PTSD and wives' distress without inferring to any causality.

ST has been observed among wives of traumatized combat soldiers (e.g., Solomon et al., 1992), partners of Holocaust survivors (e.g., Lev-Wiesel & Amir, 2007), and wives of peacekeeping soldiers (Dirkzwager, Bramsen, Adèr, & van der Ploeg, 2005). In a study of a clinical sample, Bernstein (1998), found that ex-POWs' wives experienced feelings of abandonment, role ambiguity, and suppressed anger and suffered from severe psychosomatic symptoms. In this section, we present some of the findings of our series of studies on ST of wives of the above described ex-POWs.

Results revealed that husbands' captivity and husbands' PTSD were both associated with wives' distress. The findings also show that the highest distress was exhibited by the wives of ex-POWs with PTSD. They reported significantly more PTSD symptoms, higher functional disability, and more general psychiatric symptomatology (higher total score and significantly higher scores than wives of ex-POWs without PTSD and control wives, in all SCL-90 symptoms categories apart from hostility; Greene, Lahav, Bronstein, & Solomon, 2014). In addition, we also examined the role of husbands' PTSD trajectory in wives' distress. Our findings show that wives of ex-POWs with chronic PTSD reported significantly higher ST and functional disability than controls. Wives of ex-POWs with chronic or delayed PTSD reported significantly more intrusion symptoms than controls. Finally, wives of resilient ex-POWs reported significantly higher social functioning compared with wives of ex-POWs with chronic or delayed PTSD, and control wives (Greene et al., 2014).

Recent findings from our group (Bronstein, Levin, Lahav, & Solomon, 2015), revealed that wives of ex-POWs with PTSD are more vulnerable to negative cognitions (i.e., negative perceptions of fundamental world assumptions toward self, others and the world). Results revealed that wives of POWs with PTSD reported lower levels of self-worth, lower perceptions of benevolence of people, and higher randomness, compared with spouses of ex-POWs without PTSD symptoms. Moreover, spouses of ex-POWs who experienced chronic PTSD symptoms endorsed greater levels of self-control compared with the delayed PTSD symptoms group. Finally, the results supported the mediating role of the wives' ST in the association between husbands' posttraumatic symptoms and the wives' world assumption total score.

This pattern of results resonates with findings regarding vicarious traumatization that was studied primarily amongst helping-professionals. Vicarious traumatization represents the resulting cognitive shifts in beliefs and thinking that occur in helping-professionals (i.e., therapists, social workers) in direct practice with victims of trauma (Pearlman & Mac Ian, 1995). Examples of changes in cognition when one experiences vicarious traumatization include alterations in one's sense of self; changes in world views about key issues such as safety, trust, and control; and changes in spiritual beliefs (Newell & MacNeil, 2010). Thus, the empathic concerns of clinicians healing the emotional wounds of trauma victims may cause a contagious effect reflected in their cognition. This might also be the case for ex-POWs wives who are exposed for many years to the modeling of their partners' negative world assumptions.

These findings are also consistent with Galovski and Lyons (2004) observation that secondary traumatization is a multifaceted phenomenon, manifested both in specific PTSD symptoms and non-trauma-specific forms of distress. ST is not only limited to symptoms that mimic PTSD symptoms; it can take many other forms. Much like the wide-spread effects on the direct survivors' psychological and physical outcomes, other conditions such as high levels of somatization and lower levels of self-rated health were also elevated among ex-POWs wives as compared to the control wives (Zerach, Greene, & Solomon, 2013). Once we showed the

pathogenic associations between living in close emotional proximity to ex-POWs and their wives psychopathology, our next aim was to examine possible psychological mechanisms that might explain the associations between husbands' captivity trauma and PTSD and the ex-POWs' wives secondary traumatization.

### *5.3.3 Psychological Factors That Contribute to Ex-POWs Wives Distress*

During the course of our studies we followed the assumptions of theoretical models suggesting that the associations between posttraumatic symptoms and family relations are bidirectional (e.g., Figley, 1986). The Couple Adaptation to Traumatic Stress model (CATS; Goff & Smith, 2005) is a promising theoretical systemic description of the bidirectional nature of the interactions between a veteran's reaction and his partner's reaction to trauma. These interactions are also affected by one's level of functioning, predisposing factors, resources and the couple's baseline functioning. While the outcomes of this hypothesized systemic process are sometimes adaptive and promote recovery, at other times they can be maladaptive and influence the chronicity of victims' PTSD and other family members' psychopathology. Thus, we suggest predisposing factors of both spouses' intra-psychic (i.e., differentiation of the self) and interpersonal (i.e., forgiveness, self-disclosure) psychological mechanisms as possible factors underlying the associations between husbands' PTSD symptoms and wives' ST.

The first mechanism that was suggested was husbands' aggression. It is now known that hyperarousal symptoms may undermine marital intimacy via the use of physical and verbal violence (e.g., O'Donnell, Cook, Thompson, Riley, & Neria, 2006). We also learned that the hyperarousal symptom cluster differentiated most between ex-POWs and controls at T2 and T3 (Zerach, Greene, et al., 2012; Zerach, Solomon, Horesh, & Ein-Dor, 2012). Thus, living in a chronic state of heightened arousal, increased irritability, and unpredictable outbursts of anger puts considerable tension on spouses who feel the need to "walk on eggshells" due to fear of upsetting the veteran (Dekel & Solomon, 2006; Solomon, Dekel, & Zerach, 2008).

On the other hand, both self-disclosure and emotional expressiveness reflect a process of sharing intimate thoughts, feelings, and attitudes (Finkenauer & Hazam, 2000) and are considered crucial for marital closeness (Vogel, Wester, & Heesacker, 1999) and for resolution of marital conflict (Cook, Riggs, Thompson, & Coyne, 2004; Dent et al., 1998). A lack of expressiveness or self-disclosure was found to relate to detachment, distancing, isolation, and conflict among couples (Frederikson, Chamberlain, & Long, 1996).

Preliminary studies among ex-POWs suggested that husbands' symptoms of hyperarousal, avoidance, and psychic numbing are negatively affecting their relationships. Specifically, the mediating mechanisms of verbal aggression and self-disclosure were found and may explain how the ex-POWs' PTSD symptom clusters of hyperarousal and avoidance effect their marital intimacy (Solomon, Dekel, &

Zerach, 2008). However, no empirical research specifically addressed these constructs among ex-POWs wives to explain why spouses can indirectly be traumatized by their husbands' behaviors.

Dekel and Solomon (2006) were the first to report that ex-POW husbands' physical aggression plays a significant role in their wives' level of distress. Specifically, the more frequent the husband's acts of physical aggression, the more ST and general psychiatric symptoms the wife reported. Interestingly, wives' self-disclosure moderated the associations between husbands' PTSD and wives' ST. Thus, wives who maintained communication and shared their feelings and thoughts seemed to have been able to compensate somewhat for their husbands' emotional deficiencies.

The finding that wives of physically aggressive and traumatized men reported more psychiatric symptomatology is consistent with the extensive literature documenting somatization, depression, and PTSD among wives of physically abusive husbands (e.g., Woods, 2005). Self-disclosure was found to have a direct contribution to ST and martial adjustment manifestations thereby moderating associations with wives' PTSD and emotional distress. We might expect that women married to men with PTSD, who tend to be withdrawn, would themselves respond in a similar way and withdraw in response. Not only does this not seem to be the case, but women who maintained open marital communication seemed to have been able to somewhat make up for their husbands' deficiencies.

We also examined the associations between two relational variables—differentiation of the self and capacity for forgiveness—and ST among ex-POWs wives. Both forgiveness (Solomon, Dekel, & Zerach, 2009) and differentiation (Kerr & Bowen, 1988) have been reported as resilience factors that can enhance emotional well-being and marital satisfaction. According to Bowen's Family Theory, one's capacity for differentiation is similar to the concept of emotional maturity (Bowen, 1978). Differentiation is created within one's family of origin, which allows the child to grow into an emotionally autonomous individual while still feeling connected to others. Thus, on the interpersonal level, high differentiation involves the capacity to develop an autonomous sense of self while still maintaining close connections with significant others. Low differentiation, on the other hand, may be expressed by being over-involved in the relationship with one's partner and pleasing others to a level of losing one's self (i.e., fusion) or by focusing on one's individuality and emphasizing one's personal autonomy (i.e., cutoff) (Bowen, 1978; Kerr & Bowen, 1988).

According to Bowen's Family Theory, "chronic anxiety increases as the level of differentiation decreases" (Kerr & Bowen, 1988, p. 117). Research has consistently pointed to the ability of highly differentiated individuals to manage stress adaptively and develop less psychological symptoms (e.g., Skowron, Stanley, & Shapiro, 2009). Over the years, a few studies have suggested that differentiation mediates the relationship between stress and distress (Murray, Daniels, & Murray, 2006). For example, Skowron, Wester, and Azen (2004) found that differentiation partially mediated the relationship between stressful experiences and adjustment. Furthermore, differentiation of self was found to be a partial mediator of both

stressful events and perceived stress effects on psychological distress (Krycak, Murdock, & Marszalek, 2012). Nevertheless, only a few studies have assessed differentiation among war-related trauma survivors and their relatives (e.g., Giladi & Bell, 2013). Thus, it is important to examine the hypothesis that elevated levels of anxiety among poorly differentiated ex-POWs and their partners might prevent them from effectively coping with the chronic stress stemming from post-captivity behaviors. As conflictual marital relations can elicit strong negative feelings and disrupt the relationship, forgiveness might be considered as one means of providing closure for a painful and/or disturbing relationship event (e.g., Fincham, Hall, & Beach, 2006).

Enright and Coyle (1998) define forgiveness as "a willingness to abandon one's right to resentment, negative judgment and indifferent behavior toward one who unjustly injures us, while fostering the undeserved qualities of compassion, generosity, and even love toward him or her" (p. 140). Attempts to forgive are assumed to be part of the conflict resolution process aimed at reducing negative stress reactions and increasing positive emotions and closeness. Findings indicate that forgiveness increases intimacy, trust, and feelings of closeness between partners, essentially contributing to a more equal balance of power (Gordon & Baucom, 1998). Forgiveness may also be important for ex-POWs wives to overcome their fears and memories of disturbing events within their marital relationships that stem from their partners' behaviors, and can ultimately affect both their well-being and their personal relationships (Orcott, Pickett, & Pope, 2005).

Dekel (2010) added an important insight regarding ex-POWs' wives personal account about the association between differentiation of the self and forgiveness. This study's findings revealed that for women with high fusion or detachment, forgiveness negatively predicted distress measures. This suggests that women with low levels of differentiation (i.e., high fusion or detachment) used forgiveness in their marital relationship to strategically reduce their levels of distress. Elaboration of the association between differentiation of the self and wives' ST comes yet from another study by our group (Solomon, Dekel, Zerach, & Horesh, 2009). In this study, we found that empathy for distress mediates the relation between low differentiation (fusion) and ST over time. The results support the notion that empathy for distress and differentiation are significant components of the psychological mechanism in a contagion model in which the over differentiated spouse empathizes with her husband and as a result may suffer from elevated levels of PTSD symptoms.

### *5.3.4 Couples' Adaptation Bidirectional Effects*

As noted, theoretical models have suggested that the associations between posttraumatic symptoms and family relations are bidirectional (Goff & Smith, 2005). In our recent studies we followed the important theoretical contribution of Monson, Fredman, and Dekel (2010) that provided a systemic description of the interactions between veterans' and wives' reactions to trauma. In their cognitive-behavioral

interpersonal model they postulate overlapping behavioral (e.g., classical conditioning processes), cognitive (e.g., disrupted schema of safety), and emotional (e.g., guilt, shame, anger) mechanisms which affect PTSD and relationship adjustment. These factors in each partner were also found to interact at the dyadic level and affect both participants and the relationship they experience. While the outcomes of this hypothesized systemic process are sometimes adaptive and promote recovery, at other times they can be maladaptive and influence the chronicity of victims' PTSD and the possibility of wives' psychopathology.

Unfortunately, bidirectional theoretical models have not been subjected to systematic and rigorous scientific investigation. As a result, empirical evidence for the mutual effects between husbands' PTSD and wives' ST, as moderated by their personality factors, are very limited (e.g., Solomon, Dekel, Zerach, & Horesh, 2009). Thus, we studied the associations between the above mentioned psychological mechanisms (e.g., differentiation of the self) that were previously assessed by one partner, at the dyadic level of analysis. As the clinical picture of traumatic residues is in constant change over the years and acts as a function of change in spouses' psychological factors, this kind of examination can shed light on dynamic interactions between husbands and wives.

In our first study within the dyadic level (Solomon, Dekel, Zerach, & Horesh, 2009), we found that for ex-POWs, a positive association was observed between both fusion and cutoff levels with PTSD symptoms. For their wives, on the other hand, such a connection was found only for cutoff. In addition, husbands' fusion was significantly associated with wives' ST symptomatology, whereas none of the wives' differentiation dimensions were related to the husbands' PTSD. Importantly, interactions between men's and women's differentiation were also found. When wives reported high cutoff, a stronger connection was found between husbands' cutoff and PTSD symptomatology. Also, the higher the ex-POWs fusion, the more strongly his wife's cutoff was positively related to PTSD symptomatology.

It is reasonable to assume that when the husband's cutoff is reinforced by his wife's cutoff, his isolation and avoidance may become even stronger. Thus, when the entire spousal relationship is dominated by emotional cutoff, emotional distress is more likely to arise. Furthermore, it seems that when the boundaries between the woman and her husband's traumatic experiences are not clear enough (i.e., fusion), she may resort to emotional cutoff in an effort to protect herself from anxiety. This cutoff often has psychopathological implications in the form of ST.

The association between attachment insecurities and ST can also be considered at the dyadic level of analysis, because a traumatized person's attachment insecurities may be associated with a spouse's ST. In this way we can examine the congruency between actor and partner attachment insecurity or, rather, their differential effects on one another. According to Bowlby's (1973, 1982) attachment theory, a person's history of interactions with significant others contributes to individual differences in distress regulation, mental representations of self and others, and interpersonal cognitions and behavior. Updated research views adult attachment as a two-dimensional construct: the attachment-anxiety dimension that relates to the extent to which one worries that one's significant other will not be available in times

of need and will not meet one's wishes for proximity and care and; the attachment-avoidance dimension that refers to the extent to which one does not trust the good intentions of others and emotionally distances oneself (Mikulincer & Shaver, 2007).

In another study by our group, Ein-Dor, Mikulincer, Doron, and Shaver (2010) found that for both groups of veterans and their wives, attachment anxiety was associated with the severity of their own and their spouses' PTSD and ST. Avoidant attachment was associated with PTSD and ST only in couples that included a former prisoner of war. Using an actor-partner interdependence model method, we found that wives' ST is associated not only with their own attachment anxiety but also with the attachment anxiety of their traumatized husbands. Furthermore, higher avoidance scores among ex-POWs were associated with wives' reduced PTSD intrusion symptoms and avoidant attachment in wives of ex-POWs was associated with ex-POWs' PTSD intrusion symptoms. This partner effect was not observed among couples that included a war veteran who had not been held in captivity.

Therefore, at the level of the dyad, attachment anxiety in both partners may be important to address when one or both partners have PTSD symptoms. For example, traumatized ex-POWs who score high on anxious attachment and who are often unable to suppress negative thoughts and feelings and tend to disclose them indiscriminately to their partner (e.g., Mikulincer, Dolev, & Shaver, 2004), may overwhelm their spouse by repeatedly sharing traumatic memories and current distress. However, avoidant attachment seems to be related to PTSD symptoms only under extreme traumatic circumstances. One can easily see the convergence and accumulation of data with the previous study (Solomon, Dekel, Zerach, & Horesh, 2009), indicating that that interaction of personality predisposition of avoidance and cutoff differentiation and the exposure to captivity-related PTSD might be a significant risk factor for both husbands and wives trauma-related psychopathology.

## 5.4 War Captivity, PTSD, ST, and Marital Relationship

Captivity is an interpersonal trauma, in which the captor maintains a continuous, close and coercive personal relationship with the victim. As such, this type of trauma in particular can have a detrimental effect on an ex-POW's future relationships (Herman, 1992a). Specifically, models of complex PTSD suggest that the interpersonal nature of the captivity experience renders the ex-POW particularly vulnerable to fundamental changes in their perception of others and subsequent interpersonal relationships, among other things (e.g., Solomon, Dekel, & Mikulincer, 2008). In captivity, the perpetrator is also the person on whom the captive depends for survival. This close, complex and highly ambivalent relationship often undermines internal models of attachment (Solomon, Mikulincer, & Dekel, 2008), which in turn reduces or even severely damages the traumatized victim's capacity to maintain long term intimate ties. Experienced clinicians argue that prolonged captivity disrupts basic human relationships as "…the survivor oscillates between intense attachment and terrified withdrawal" (Herman, 1992b, p. 93).

These consistent clinical observations across wars and cultures give rise to an important question: What are the effects of ex-POWs' trauma on the marital relationships of ex-POWs and their spouses? Some studies show that supportive marital relationships may promote recovery from psychological disorders among adults (Whisman, Uebelacker, & Bruce, 2006), This is in line with the body of research implicating marital relationships in PTSD of veterans (for review see Monson, Taft, & Fredman, 2009). Thus, understanding the effects of captivity trauma on both spouses' marital adjustment is an important part of understanding psychopathology and recovery dynamics.

In a series of studies of Israeli ex-POWs we have documented impairments not only in attachment but also in impulse control directed at their spouses (Solomon, Dekel, & Zerach, 2008). Moreover we observed difficulties in sexual functioning and satisfaction in ex-POWs (Zerach, Ben-David, Solomon, & Heruti, 2010). In light of the multifaceted, intimate terror of war captivity, it comes as no surprise that studies consistently show that ex-POWs report poor marital relationships and low marital stability and satisfaction (Solomon, Dekel, & Zerach, 2009).

In another series of studies we also documented the implication of captivity and husbands' PTSD in marital relations of ex-POWs' spouses. In two studies (Dekel, 2010; Dekel & Solomon, 2006), we found that not only does ex-POWs' PTSD affect wives' ST, it also has a negative effect on wives' marital adjustment and satisfaction. In a qualitative study of a subgroup of the spouses, findings indicated that ex-POWs' wives saw themselves as responsible for their husbands' well-being, often at the expense of their marital relations and their personal needs (Dekel, Goldblatt, Keidar, Solomon, & Polliack, 2005).

Furthermore, one of our studies (Dekel, Enoch, & Solomon, 2008), explored the effects of captivity and ex-POWs' PTSD on both husbands' and wives' marital adjustment. In this study, we found that captivity indirectly influenced the husband's marital adjustment through his PTSD. In turn, PTSD had an indirect effect on both spouses' marital adjustment, through marital relations variables. For husbands, verbal aggression, self-disclosure and sexual satisfaction as well as wife's self-disclosure, mediated the link between PTSD and their marital adjustment. For wives, self-disclosure and sexual satisfaction as well as husband's self-disclosure, mediated the link between PTSD and their marital adjustment.

Our findings (Greene et al., 2014) show that traumatized ex-POWs reported poorer marital adjustment than non-traumatized ex-POWs and controls at all three waves of assessment. In fact there was a significant decline in marital adjustment over time among the ex-POWs but not among the controls. In turn, PTSD had an indirect effect on both spouses' marital adjustment, through marital relations variables. Specifically, dyadic adjustment among the wives of ex-POWs with PTSD was lower compared with wives of ex-POWs without PTSD and control veterans' wives. Moreover, while wives married to ex-POWs with delayed PTSD reported lower dyadic adjustment at T2, surprisingly, wives of ex-POWs with chronic PTSD symptoms reported higher dyadic adjustment at T2. On the one hand, the results suggest that the adaptation to the posttraumatic symptoms over time can also be manifested in marital adjustment. On the other hand, the outbreak of delayed-onset

PTSD also can bring about marital distress. A question then remains regarding the possible risk and resilience factors that might impede or promote marital relations of ex-POWs and their spouses.

### *5.4.1 What Promotes or Impedes Marital Relationships?*

Given the significance of marital adjustment to both spouses' distress and recovery, we also assessed a number of psychological mechanisms that might explain the effects of the husbands' traumatic captivity experiences on both husbands and wives' marital adjustment. Dekel and Solomon (2006) found that higher self-disclosure was associated with wives higher marital adjustment. In addition, exposure to verbal aggression (but not physical aggression that, as noted, was related to wives' distress) was associated with wives lower marital adjustment. Dekel (2010) also found that balanced differentiation and detachment cutoff differentiation, as well as forgiveness were significant predictors of marital adjustments. Balanced differentiation and forgiveness were positive predictors while detachment was a negative predictor.

Another factor that could impact marital adjustment is family boundaries (Olson, Sprenkle, & Russell, 1979). A family boundary describes the degree to which the family unit has both internal boundaries (e.g., boundaries between close family members) and external boundaries (e.g., boundaries between the family unit and external people such as friends and extended family). In highly adaptive families, both internal and external boundaries are believed to be balanced and flexible, adapting in relation to situational and developmental demands. Studies have documented the positive effects of cohesive families on the spouses' well-being and distress (e.g., Walton & Takeuchi, 2010). This raises questions regarding the possible moderating role of stable yet flexible perceptions of family boundaries in the association between veterans' wives' ST and marital adjustment.

In a recent study (Zerach, Greene, & Solomon, 2014), we found that both attachment-avoidance and perception of stable family boundaries were associated with higher levels of marital adjustment. In addition, family boundaries moderated the relationship between wives' attachment-anxiety and marital adjustment. Hence, if a wife exhibited attachment-anxiety as well as characteristics of firm interpersonal family boundaries, then the probability of her reporting high levels of marital adjustment increased.

Olson (1993) referred to family boundaries as part of the family flexibility dimension. In highly adaptive and flexible families, negotiations are open, roles are shared, and rules can be easily changed upon situational and developmental demands. Therefore, it can be assumed that flexible family boundaries actually protect ex-POWs' wives from the pervasive worry of abandonment within relationships that might affect dyadic adjustment. Moreover, negative partner behaviors usually have a particularly detrimental impact on marital satisfaction among highly anxious individuals, who habitually question the strength of their relationship and their

partner's love and commitment (Feeney, 2004). Ex-POWs' wives are more likely to have husbands who display posttraumatic avoidance symptoms and if the wives have high levels of attachment-anxiety they may interpret their husband's avoidance symptoms more negatively and become distressed.

Importantly, it was found that the conflict variable (verbal aggression) mediated the link between husbands' PTSD and his marital adjustment. However, intimacy variables such as husbands and wives' self-disclosure and husbands' sexual satisfaction mediated the link between husbands' PTSD and his marital adjustment. Respectively, intimacy variables such as husbands and wives' self-disclosure and wives' sexual satisfaction mediated the link between husbands PTSD and wives' marital adjustment (Dekel et al., 2008). It is interesting to note that in itself marital adjustment moderated the relationship between wives' ST and her general health. Thus, if a wife suffers from high levels of ST and also has low levels of marital adjustment, her probability of reporting low general health increases (Zerach et al., 2013).

## 5.5 Clinical Implications

Building upon the last decade of research on the ex-POWs' wives and the findings regarding the extensive toll of captivity and PTSD on the physical, emotional, and interpersonal conditions of ex-POWs' wives, we suggest a number of clinical implications. First, the results clearly reveal that spouses of survivors of prolonged, repeated, severe and interpersonal trauma, such as war captivity, may be at particular risk of secondary traumatization due to their close relationship with the survivors and the ongoing nature of their secondary exposure. As such, they should be identified as a vulnerable group and given appropriate support.

While we cannot change the terrible fact of captivity suffering of former POWs, we can and should better screen and identify distressed spouses of ex-POWs. We should pay special attention to ex-POW's wives whose husbands suffer from PTSD. Specifically, we need to pay special attention to the needs of wives of ex-POWs with chronic and delayed-onset PTSD who are especially vulnerable to ST. The veterans are typically the sole recipients of services. Nonetheless, agencies that provide services to veterans should not forget the wives—a complicated issue when clinical resources are limited.

We can also attempt to develop and provide helpful interventions to focus on the wide spectrum of ST as also manifested in negative perceived health outcomes and social functioning. The finding that PTSD is implicated in marital maladjustment suggests that attention should also be paid to the marital relations of ex-POWs and to the way in which PTSD affects their own marital adjustment and that of their wives. For example, it is important to help these wives maintain their differentiation of self, despite the obstacles posed by their husband's distress. Family clinicians should actively address the notion that giving up on wives' personal needs might be harmful for wives' well-being but also for their spouse's recovery. Given that

negative family relationships may interfere with PTSD treatment outcomes (Tarrier, Sommerfield, & Pilgrim, 1999), helping wives represents an integral investment in the veterans' recovery.

Our results also suggest some psychological mechanisms that might moderate the negative implication of living in close emotional proximity to a trauma victim. For example, not only should attention be paid to the possible sexual problems of ex-POWs (Zerach et al., 2010), but also to the mediating effect of both spouses' sexual satisfaction on the links between husbands' PTSD and their marital adjustment (Dekel et al., 2008). Furthermore, as Ein-Dor and his colleges (2010) have shown, avoidant attachment seems to be related to PTSD symptoms only under extreme traumatic circumstances. Addressing the mutual effects of avoidance-related attachment through the promotion and improvement of self-disclosure (Dekel et al., 2008) might enhance the marital relations of both spouses.

Our finding that wives' ST mediates the husbands' posttraumatic symptoms and the wives' world assumption total score, suggests possible targets for interventions (Sherman, Zanotti, & Jones, 2005). That is, wives' distress may be reduced by cognitive interventions designed to help change the wives' perceptions of their husband's posttraumatic symptoms. For example, some of the problems that ex-POWs encounter are personality changes (in the form of Complex PTSD; Zerach & Solomon, 2014), that might not be recognized as typical PTSD symptoms. Thus, these problems might not be given the acknowledgment and empathy they deserve (Renshaw et al., 2011).

## 5.6 Directions for Future Research

While the interest in secondary exposure to trauma grows, both among family members and therapists of trauma survivors, research is still in the preliminary stages and there are many unanswered questions regarding etiology and underlying processes. There is a need for longitudinal studies that will examine the relation between ST and PTSD at different points in time following the traumatic event. Only longitudinal studies can identify the factors that set in motion the psychopathology of ex-POWs' wives (Greene, Lahav, Kanat-Maymon, & Solomon, (2015)). Attention should be paid to new methodologies that can assess dyadic processes and the associations between couples. For example, bidirectional models such as Actor-Partner Interdependence Models (APIM) can assess the dyadic processes and the associations between both traumatized individuals and their spouses. As well, scholars should consider questions regarding husbands' and wives' roles (as partner effects) on the recovery from PTSD and ST.

Importantly, there is a dire need to understand the complex associations with other family members, such as offspring, that may lead to new hypotheses regarding their effects on the mental health of both ex-POWs and their wives. For example, Cohen, Zerach, and Solomon (2011) highlighted the effects of adult-children recruitment to the IDF on traumatized fathers' mental health. It is important to

investigate the effect of ex-POWs' adult children on their father's and mother's mental health. Future studies are also advised to assess ST using other types of objective measurements such as script-driven imagery (recollection and imagination of traumatic autobiographical events; Rauch et al., 1996), or emotional stoop task (naming of the color in which words are printed, and the words vary in their relevance to traumatic theme; Williams, Mathews, & MacLeod, 1996), that might help us build experimentally based diagnosis tools for screening of ST among spouses. Finally, researchers should strive to assess various populations both before and after the occurrence of a traumatic event. These types of studies may provide a clearer picture of the impact of traumatic events on spouses' lives.

## 5.7 Summary

The findings of our studies suggest that wives of former POWs are susceptible not only to mental health problems but also to negative physical and interpersonal consequences. This may reflect prolonged exposure to a stressful situation of living with a traumatized husband that suffers not only from posttraumatic symptomatology but also personality and functional difficulties. The interaction between traumatized ex-POWs and their wives holds the possibility for problematic marital relations, troubled by avoidance and outbreaks. However, it can also provide a powerful frame for the family, healing the wounds of the inter-personal trauma of captivity. Thus, ex-POWs wives should be considered as a population at risk for ST but also as part of the family constellation that might be the anchor for the growth and recovery of all its members.

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# Chapter 6
# Warfare and Parent Care: Armed Conflict and the Social Logic of Child and National Protection

**Ralph LaRossa**

**Abstract** A fair amount has been written on intergenerational issues in military families, with special consideration given to the difficulties that active-duty (or soon-to-be-active-duty) parents experience. Less attention, however, has been paid to the soldiers' parents. Inquiries pertaining to this group are provocative as much for the questions they raise as for the answers they offer, especially when it comes to sorting out the parents' attitudes and behaviors. The mindsets of these fathers and mothers would seem to warrant special scrutiny, in that how parents of soldiers are expected to think, and how they actually think (the two are not always in sync), can make an enormous difference in how individual parents and entire populations interpret military life. What do fathers and mothers of adult children ponder when their nation is engaged in armed conflict and needs combatants? What do they contemplate when it is their children who might be drafted or called upon to volunteer? Drawing on a social constructionist approach and offering a variety of family illustrations, I explore these and other questions. My specific objective is theoretical, in that I aim to delineate the quandaries that arise in times of war and articulate the thought patterns of parents of soldiers (or potential recruits/draftees). Essentially, I outline a "paradox of care" that, at its core, entails two mandates: a mandate to protect the children and a mandate to protect the nation. The social logic that parents use to decipher the paradox yields five scenarios, which differ depending on the weight accorded to one mandate or the other and on the extent to which the two are thought to be mutually incompatible or overlapping.

**Keywords** War • Combat • Child protection • National protection • Military draft • Cognitive sociology • Culture and cognition • Social logic • Fatherhood • Motherhood

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## 6.1 Introduction

A fair amount has been written on intergenerational issues in military families, with special consideration given to the difficulties that active-duty (or soon-to-be-active-duty) parents experience (e.g., see Goodman et al., 2013; MacDermid et al., 2005; Taylor et al., 2005). Less attention, however, has been paid to the *supra-parents* in military families, by which I mean not the parents who are soldiers, but the parents whose children are soldiers (Crow & Myers-Bowman, 2011).

The fact that researchers have closely examined the family lives of men and women in the military is understandable. It would be helpful, however, if researchers also delved deeply into the social world of the soldiers' fathers and mothers, considering, among other things, the influence of parents on young adults' decisions to enlist (or respond to a draft), and the anguish felt by parents when their children are deployed, wounded, or killed (Boehmer et al., 2004; Carvalho et al., 2008; Crow & Myers-Bowman, 2011; Frank, 1992; Gibson, Griepentrog, & Marsh, 2007; LaRossa, 2011; Legree et al., 2000; MacDermid Wadsworth, 2010; Willerton, Schwarz, Wadsworth, & Oglesby, 2011). Studies of parents of soldiers are provocative as much for the questions they raise as for the answers they offer, especially when it comes to sorting out the parents' attitudes and behaviors (e.g., see Crow & Myers-Bowman, 2011; Garner & Slattery, 2010; Ronel & Lebel, 2006; Slattery & Garner, 2007, 2011). The mindsets of these fathers and mothers would seem to warrant special scrutiny, in that how parents of soldiers are expected to think, and how they actually think (the two are not always in sync), can make an enormous difference in how individual parents and entire populations interpret military life. What do fathers and mothers of adult children ponder when their nation is engaged in armed conflict and needs combatants? What do they contemplate when it is their children who might be drafted or called upon to volunteer?

Offering a variety of family illustrations, I explore these and other questions. My specific objective is theoretical, in that I aim to delineate the quandaries that arise in times of war and articulate the thought patterns of parents of soldiers (or potential recruits/draftees). Because of the paucity of data on some of the issues discussed, I rely, in part, on materials that are not about the parents of soldiers, per se, but about the soldiers and potential recruits/draftees themselves. I have found, however, that these materials can be very informative and yield valuable leads.

As the title of the chapter indicates, I examine the concept of care, and particularly the concept of *parent care*. My use of this term refers both to the care of a parent for a child (i.e., parental nurturance) and to the care that others might give to a parent (e.g., solace offered to a grieving dad or mom). Thus, I examine the challenges that parents face in trying to determine how to best care for their children while also responding to a nation's call to have military-trained youth at the ready and, if needed, on the go; and I also examine the kind of comfort that parents are believed to desire and need to help them cope with the absence, maiming, or death of daughters and sons who, while in uniform, were placed in harm's way.

As for the theorizing process itself, whereas other studies of military families have employed attachment theory, family stress theory, and life course theory

(MacDermid Wadsworth, 2010), I employ a social constructionist approach that places cognitive processes in the foreground. The cognitions that I discuss are not reducible to physiology or psychology, but are located within cognitive sociology, which itself is integral to an area commonly referred to as the sociology of knowledge (Zerubavel, 1997; see also Berger & Luckmann, 1966). Cognitive sociology does not deny the value of looking at how humans in general think (i.e., how humans, regardless of their race or gender or social class, are hardwired to think in a particular way). Rather, it sees merit also in a pluralistic orientation (vs. universalistic orientation), one that emphasizes that cognitions can vary, depending on the sociocultural circumstances in which people are immersed (i.e., group members can think in group-specific ways because of their distinctive group-contingent experiences) (Nisbett, 2003). Cognitive sociology, in effect, examines the *social logic* that may be used in certain situations.

Cognitions themselves are broken down into six acts (perceiving, focusing, signifying, timing, remembering, and classifying), with the acts operating in concert whenever someone contemplates something. These are the same six acts that are of interest in the cognitive sciences as a whole, but instead of examining how humans jointly engage in perceiving, focusing, signifying, timing, remembering, and classifying, cognitive sociology examines how people within certain thought communities socially (and differentially) perceive, focus, signify, time, remember, and classify (Zerubavel, 1997). Given that the acts operate symbiotically, disentangling one from another can be difficult. Still, each can be defined.

*Social perceiving* has to do with social optics. Feeling the need to monitor news reports about combat operations, debating whether it is honorable or dishonorable for flag-draped coffins to be pictured or televised (what should be visible and what should not?), and wondering whether it is improper to stare at a distraught parent (should we look away out of respect?) would fall under social perceiving.

*Social focusing* is about the norms of concentration that tell us to what to notice and what to ignore. Attending to how a soldier was killed (e.g., by enemy fire or friendly fire), while not attending to the uniform the soldier was wearing at the moment of death would fall under social focusing. So would highlighting the exploits of warriors (e.g., combat ground troops and fighter pilots), while disregarding the contributions of non-combat personnel (e.g., clerks and mechanics).

*Social signifying* is about symbols (conventional signs rather than natural signs) and how they are socially constructed and utilized in various situations. Military regulations specifying who among family and friends should be formally presented with a US flag at a veteran's funeral would fall under social signifying, as would the assumption, held by some, that a picture of a grieving mother is more iconic than a picture of a grieving father.

*Social timing* is about scheduling, whether prompted by events or by a clock. Public debates about when a war "really" got under way and when it "really" was over, and how many stages there were in between, would fall under social timing (for beginnings, endings, and periodizations are, to a certain degree, also socially constructed). Concerns about the age at which a child can be drafted (is 16 too young?) or about how long is too long (or too short) for a war to continue also have to do with social timing.

*Social remembering* is about collective memory and the selective recall of past incidents, including those that we may not have directly experienced (e.g., America's Revolutionary War). How we recall earlier wars and historically frame subsequent wars also would fall under social remembering (e.g., do we believe the Iraq War is analogous to World War II, or do we believe it is analogous to the Vietnam War?).

*Social classifying* is central to all the other acts and has to do with the cultural and political drawing of boundaries and borders, and the polarizing, stratifying, and reifying that often ensue from this process. The cultural and political demarcation of sharp gender distinctions (fathers vs. mothers) and the cultural and political crafting of antithetical dissimilarities in allegiance (e.g., friend vs. foe) would fall under classifying and, in particular, under *polarizing*. Deeming one cognitive category as superior to another would fall under classifying as well, and, in particular under *stratifying* (e.g., ranking "our side" above "their side"). Mistaking culturally and politically shaped differences for natural differences also would fall under classifying and, in particular, under *reifying* (e.g., asserting that maternal "instincts" invariably predispose mothers to mourn more than fathers, when in fact both women and men are taught how to contemplate death and express sorrow in circumscribed ways) (Zerubavel, 1997; see also Berger & Luckmann, 1966; Zerubavel, 1991, 2006).

The analysis to follow, which builds on these concepts, is divided into two sections. First, I discuss a recently-formulated perspective on the mothers of soldiers and the mothers' enmeshment in a *paradox of care*. Next, I propose a reconfiguration of the paradox to underscore the importance of recognizing fathers as well as mothers and to more fully incorporate the multiplicity of choices that supra-parents face. Throughout the chapter, social perceiving, social focusing, social signifying, social timing, social remembering, and social classifying are reintroduced and integrated (sometimes parenthetically) to demonstrate the utility of a social constructionist approach to understanding military families. (For examples of a social constructionist approach in non-military family research, see LaRossa, 1997, passim; LaRossa & Reitzes, 2001; LaRossa & Sinha, 2006; LaRossa, Simonds, & Reitzes, 2005.)

## 6.2 Garner and Slattery's Theoretical Take on the Mothers of Soldiers and the Paradox of Care

Based on an analysis of print and television news from World War II and the Iraq War, Ana C. Garner and Karen Slattery offered a theoretical take on the mothers of soldiers and the paradox of care (Garner & Slattery, 2010; Slattery & Garner, 2007, 2011). Mothers, they noted, generally are expected to protect their children, yet children are needed to defend the nation. What are mothers expected to do if a country is threatened and issues a call to arms? Should they discourage their children from serving in the military or caution them against choosing military occupational specialties (MOS's) that may entail combat (e.g., infantry, artillery), thus doing whatever they can to keep their children safe? Or should they let their children serve

and perhaps motivate them to volunteer for dangerous assignments, thus showing their willingness to sacrifice their children in the defense of the country? Yet another option would be not to discourage or encourage, but to remain non-committal (at least publicly) and allow their children to make their own a decisions when it came to the military.

At the heart of the paradox, Garner and Slattery state, are two ostensibly competing archetypes or symbols (i.e., social significations): *the good mother*, on one hand; and *the patriotic mother*, on the other. Whereas the good mother satisfies "the duties of mother *qua* mother," the patriotic mother fulfills "the duties of mother *qua* citizen" (Slattery & Garner, 2011, p. 88). Simply characterized, one "protects her children from harm"; the other "puts her children directly into harm's way" (Garner & Slattery, 2010, p. 144; see also Slattery & Garner, 2007).

Garner and Slattery's views were based, in part, on ideas about maternal practice and maternal thinking that were first advanced by Sara Ruddick (1989). As Ruddick phrased it: "Maternal practice begins in response to the reality of a biological child in a particular social world. To be a 'mother' is to take upon oneself the responsibility of child care, making its work a regular and substantial part of one's working life" (p. 17). "Maternal thinking," in turn, derives from maternal practice, in that, especially with small children, mothers are constantly put in the position of having to "think out strategies of protection, nurturance and training" (p. 23).

Mothers are not the only ones who can engage in maternal thinking. Fathers (and others) can as well. But, according to Ruddick (1989), for them to do so they must be immersed (or have been immersed) in maternal practice. Thus, maternal thinking is less a product of biological dispositions and more a consequence of social circumstances, making it a socially constructed mindset.

With Ruddick's (1989) ideas in the mix, the archetype of the good mother and the archetype of the patriotic mother—as cultural forms—would seem to be polarized opposites; likewise, maternal thinking and patriotic thinking would seem to be sharply at odds. Garner and Slattery, however, found that although the two sets of assumptions "appear to conflict," (Slattery & Garner, 2007, p. 430), in actuality (i.e., in the press reports examined) the two can be sociomentally reconciled.

Garner and Slattery pointed out, for example, that government agencies often have pushed the idea that a patriotic mother might also be considered a good mother, in that a good mother is willing to subordinate her desire to personally protect her children if it ultimately meant safeguarding the nation. A patriotic mother, they said, is "valued for her willingness to look the other way [i.e., redirect her perceiving] while her child face[s] injury or death" (Garner & Slattery, 2010, p. 152). In cognitive sociological terms, a patriotic mother is said to know not only when to "let go" (honoring a culturally and politically constructed boundary between her and her child) but also when not to think too much about what might happen to her child on the battlefield ("Mother, you would do well to dwell on something else").

The "push" to reinforce this sociomental association is manifested in the symbolic work (again, social signifying) that is carried out to honor the mothers of soldiers and hold them up as paragons of virtue. Examples of this symbolic work include the propaganda posters that government offices produce and distribute.

("Here he is, sir," says a mother in an early twentieth century recruiting poster, as she hands her son over to Uncle Sam for conscription [Garner & Slattery, 2010, p. 145].) More subtle but no less effective is the belief in some circles that mothers, more so than fathers, find it difficult to cope with the deployment of a child and require a level of emotional support far above what fathers might require (LaRossa, 2011). What is implied is that without these efforts—without these *cognitive structures*—mothers would staunchly oppose the government's recruiting efforts, and express moral outrage if a daughter or son or theirs were to become a casualty. Widespread resistance to children being pulled into battle would make it difficult, if not impossible, for a country to engage in armed conflict, hence the use of marketing campaigns and other rhetorical devices to frame military service in noble terms (Lorentzen & Turpin, 1998).

Garner and Slattery found as well that mothers could reconcile the good mother versus patriotic mother paradox by believing that they were able to nurture their children from afar. In the news items studied, mothers enveloped maternal thinking and maternal practice within the patriotic mother archetype—thus categorizing one symbol (good motherhood) under the other (patriotic motherhood). For example, mothers of servicemen and servicewomen regularly kept a "watchful eye" on their children by monitoring (socially attending to) reports about the war zones where their daughters and sons were stationed. Demonstrating that they not only could care about but also care for their children, mothers also sent "packages, food, blankets, and clothing, in an attempt to meet physical needs that might otherwise remain unmet"; offered children "maternal advice on safety"(e.g., "keep [your] gas mask on"); and lent "emotional and spiritual support" when they felt it might help (e.g., counseling that God would forgive a US soldier "if he [or she] had to kill someone") (Slattery & Garner, 2007, pp. 436–437; see also Garner & Slattery, 2010; Slattery & Garner, 2011).

## 6.3 The Social Logic of Child and National Protection

### *6.3.1 Reconfiguring the Paradox*

Garner and Slattery maintained that their conceptualization—and especially their documenting how women continued to care for their children, even from a distance—offered a portrait of wartime motherhood that was "more nuanced and complex than the myth of the patriotic mother allowed" (Slattery & Garner, 2007, p. 440). In this, they were correct. Their research does make an important contribution to our understanding of mothers and war. By their own admission, however, their conceptualization is limited, in that it provides only minimal information about the fathers of soldiers. These men, it was said, also "deserve serious scholarly attention" (Slattery & Garner, 2007, p. 441).

The relational nature of roles, in and of itself, underscores the necessity of looking beyond mothers, for how mothers think in times of war cannot be fully

understood without taking into account the influence of the mothers' counter-role partners (LaRossa & Reitzes, 1993). Thus, a mother's freedom to openly express her sorrow about a child's death may be contingent on a father keeping his own sorrow a secret (whereby he socially—and stoically—fashions a *mis*perception about how he genuinely feels).

Garner and Slattery's theoretical take on the paradox of care is limited as well in another way. Not only does it offer minimal information about fathers, it also fails to take into account the full complement of cognitive options. In light of this, I propose that, in addition to including father and mothers, the paradox be reconfigured so that it allows for the consideration of more decision nodes. Thus, I suggest that, rather than speak about a good mother archetype versus a patriotic mother archetype, as Garner and Slattery do, we envisage instead two mandates that apply to all caregivers. The first mandate is to *protect the children*; the second mandate is to *protect the nation*. From this distinction, we may identify five scenarios, each of which can be applied to fathers and/or mothers.

In scenario one, protecting the children takes complete precedence over protecting the nation (i.e., one's own children are kept from military service). In scenario two, just the opposite is true: protecting the nation takes complete precedence over protecting children (i.e., the nation is protected, with the understanding that one's own children can be sacrificed on the battlefield). In scenario three, protecting the children is thought to be primarily important, while protecting the nation is secondarily important (i.e., one's own children may serve in the military but, one hopes or ensures, not in a combat role). In scenario four, protecting the nation is thought to be primarily important, while protecting the children is secondarily important (i.e., one's own children may serve in the military in a combat role but one's expectation is they will be protected from harm and will return home safe). In scenario five, the two mandates are thought to be overlapping and equally important (i.e., to protect the nation is to protect the children, and vice versa).

It may be hard to imagine scenario two existing in fact. What sort of parent would think that protecting the nation should take complete precedence over protecting her or his children? By way of response, I first would note that the scenarios are options in a theoretical schema and, as such, are meant to convey an array of *possibilities*, not probabilities; they are, in other words, constructs meant to represent a series of "what ifs?" Second, I would submit that scenario two is more prevalent than may be immediately apparent. In a culture that anticipates and sometimes engages in war, soldiers "are expected to *die*" for their country, not just fight for it (Ryan, 2002, p. 20, my italics). That is to say, soldiers are trained to protect the nation, even it means giving up their own lives in the process. If significant numbers of soldiers accept this as their duty, then it is possible that there are also fathers and/or mothers who subscribe to the belief that there can be wartime circumstances where sacrificing children on the battlefield is required for the nation's good and that sometimes protecting the nation must take complete precedence over protecting any given child, even if that child is one's own.

### 6.3.2 What About Fathers?

It is perfectly understandable that mothers would find it difficult to reconcile protecting their children with the military's demands to place their children in perilous situations (Garner & Slattery, 2010; Slattery & Garner, 2007, 2011). It must be recognized, too, however, that mothers are not alone in wanting to safeguard their children, nor are they alone in worrying about what can happen to a daughter or son in a war zone; fathers are prone to have these feelings as well. Indeed, when the experiences of fathers are examined, it is clear that men's concern for their children's welfare closely parallels the concern that women have.

Men also have been known to say that they feel "fear" or "dread" or are "scared" when one of their children is deployed. A father of a soldier stationed in the Middle East spoke for many when he said that, although he was certainly "proud" of his son, he was "scared, fearing for his safety and wishing somehow [he] could take his place." Another father talked of the "anxiety, uncertainty, fear and frustration" he felt in "knowing [his son] was going into a very difficult and hostile place …." Yet another referred to "the endless days of worrying for [his son's] safety" (cited in Crow & Myers-Bowman, 2011, pp. 171–174).

These qualms are not specific to contemporary fatherhood or manifestations of current wars alone. In previous times and in previous conflicts, fathers have agonized over the fact that children called up to serve (and those already serving) were (or could be) in great danger. During the Civil War, numbers of fathers did what they could to keep their sons from enlisting or being drafted; and among the men whose sons who were in the field, some went to extraordinary lengths to continue their parental care. There were, for example, fathers who, upon learning that their children had been wounded, traveled great distances to help nurse their children back to health (Frank, 1992).

There are reported cases, too, where a father's anguish over a child's deployment was so intense as to be personally life threatening. During World War II, one father suffered a heart attack within minutes of saying farewell to a son who had been drafted. Several hours later, he had another heart attack and died. He had "tearfully told his family that induction of his second son into the Army would be the death of him" ("2nd son inducted, father dies," 1943). Forty years before, during the Philippine-American War, a father of a soldier was said to be so "worr[ied] over the fate of [his] son" that he tried to take his own life ("Soldier's father tries suicide," 1900).

The extent to which fathers as well mothers are concerned about their children being in the armed forces can also be gleaned from the Department of Defense (DOD) "Influencer Polls" which are regularly carried out to tap the opinions of adults who are known to affect youngsters' choices in life (i.e., family members, teachers, coaches, guidance counselors, etc.). The polls show that parents currently are not inclined to recommend the service to a daughter or son, and that mothers are less prone than fathers to make such recommendations. Interestingly, however, the difference between fathers' and mothers' attitudes on military service is smaller than might be presumed. One poll, completed in 2003, found that 46 % of fathers, compared to

40 % of mothers, said they would recommend that a child join the military, while a follow-up poll, completed in 2008, found that only 30 % of fathers and 23 % of mothers would—a substantial drop over 5 years. Interviewees indicated that the ongoing war in the Middle East negatively impacted their willingness to endorse the military as a career (Boehmer et al., 2004, p. 14; Carvalho et al., 2008, p. 14).

The simple truth is that fathers, like mothers, care about the safety of their daughters and sons and find themselves caught between the mandate to protect the children and the mandate to protect the nation. Interestingly enough, however, some communities do not necessarily think of fathers in this way—or, if they do, they sociomentally separate fathers from mothers. For example, websites and self-help books for mothers of soldiers abound; less perceptible are support services for dads. Remarkable, too, are some of the comments that emerge during discussions of what it means to have a child in the military. In one Internet-based survey of parents of service members, several mothers complained about the lack of support they felt they received from their partners (but the reverse situation was not mentioned), and two mothers, in particular, seemed to place fathers in a cognitive space that was reserved for supporters alone (e.g., friends, coworkers, religious organizations). One father did talk about the comfort that he and his wife had provided to each other (and it is likely that in many instances partners kept each other's spirits alive); but another said that the support he had gotten from his son, who was deployed, allowed him to support his wife—which raised the question of whether his wife felt the support that she had gotten from others provided additional strength for her to support her husband (Crow & Myers-Bowman, 2011). In short, when it comes to dealing with the absence of a child in the service, some might tend to think that the role of the father is in a different class from that of the mother. The father's job, in certain people's minds, is more to give assistance than to receive it.

The social construction of polarized roles seems particularly acute when a serviceman or servicewoman dies and condolences are offered to the family. In these circumstances, it is not uncommon for mothers to be accorded greater sympathy. Consider the cognitive boundary of Gold Star Motherhood. In the late 1920s, a group of mothers who had lost their daughters or sons in World War I came together to establish an organization called the American Gold Star Mothers (AGSM). The stated purpose of the AGSM was "[t]o unite with loyalty, sympathy and love for each other, mothers whose sons or daughters have made the supreme sacrifice while in the Service of the United States of America, or a result of such service" (meaning that a child had been killed while on active duty). In the late 1930s, a bill was brought to the US House of Representative to incorporate the AGSM. From the very beginning, as the very name of the organization makes clear, only mothers could be given full Gold Star status. Fathers, in contrast, were restricted to being "honorary members" or "associate members" and thus were relegated to the periphery (American Gold Star Mothers, 2013; LaRossa, 2011, pp. 58–59).

In the years since it was formed, AGSM has become a revered American institution. By Presidential proclamation, the last Sunday in September is "Gold Star Mothers and Families Day" (Presidential Proclamation, 2012). Other organizations, in support of the fathers of the fallen, have recently emerged. None has the government imprimatur—or *symbolism*—that the AGSM has.

Some might claim that fathers are naturally less attached to their children than are mothers, and find it easier to accept the death of a daughter or son. But these assertions reify what, in fact, are socially established gender distinctions, and fail to take into account the considerable correspondence in men's and women's feelings.

### *6.3.3 Protecting the Nation: Not Just an Abstraction*

In their interpretation of the paradox, Garner and Slattery characterize a mother's choice as between whether to care for a child or whether to care for a nation. One side of the equation is said to be in the private sphere; the other is said to be in the public sphere (Slattery & Garner, 2007). Whereas the private sphere is a personal world of flesh-and-blood children and families, the public sphere is an impersonal world of abstract nations, governments, or states (Garner & Slattery, 2010, p. 144).

From an egocentric viewpoint, parents may very well think of the paradox as a choice between the personal and impersonal, and they may very well speak of the nation or government or state as an incorporeal entity. But this is not necessarily how every parent thinks of it, nor is it the most theoretically informative way to describe the breadth and complexity of the paradox.

When Garner and Slattery present the paradox as a choice between children and the nation, without saying precisely what they mean by "the nation," they come close to objectifying the nation/government/state to such a degree that they obscure the fact that the nation is made up of people. In other words, it is not some abstract nation that is in danger and in need of defense in times of war; rather it is the occupants of a specified territory who are vulnerable. Indeed, the extent to which a population feels directly threatened can influence how the paradox is cognitively framed—something that Garner and Slattery (2010, p. 153) briefly discuss but do not fully explore.

Although there are not many studies that have empirically looked at how parents of soldiers think about specific threats in a war, there are writings that provide insights into how soldiers themselves think about the threats. Even with the recognition that soldiers can get caught up in nationalistic zeal and vow allegiance to their country (Marvin & Ingle, 1999), especially at the beginning of a war and in response to an enemy assault (e.g., the attack on Pearl Harbor), the question of why soldiers fight comes down, for the most part, to a commitment to (a) safeguard their homes and (b) shield and support their comrades in arms (who, in turn, are shielding and supporting them).

During the Civil War, for example, "For Union and Confederate volunteers alike, abstract symbols or concepts such as country, flag, Constitution, liberty, and legacy of the [American] Revolution figured prominently in their explanations of why they enlisted." But "[f]or Confederate soldiers a more concrete, visceral, and perhaps more powerful motive came into play: defense of home and hearth against an invading enemy" (McPherson, 1997, p. 21). This is not meant to convey that Union soldiers did not fight to defend their homes, but Northern nationalism, albeit "just as real and as deeply felt,"

was different from Southern nationalism. Union soldiers, more often than not, "did not think they could 'retire into their own country' if they lost the war 'and possess everything they enjoyed before the war began.'" As one Northern officer succinctly put it, "If we lose in this war, the country is lost and if we win it is saved" (p. 99).

Similar sentiments were voiced in World War II. Within 24 h after learning that one of his boys had been killed in action, a Gloversville, New York, man took his other son to the induction station and insisted that he enlist. "It is better that these sacrifices be made *than to be ruled by the Axis*," said the father ("Brother killed, enlists," 1942, my italics). War and survival appeared also to be on my father's mind when he was serving as a radioman in the air corps during World War II. In a letter that he wrote to my mother in 1942, he declared: "Darling I have an important job to do, we all have. We have to go overseas, so you my wife and our children to come, my parents and your parents and I can live in peace. That is why I am fighting …, for *peace on Earth*" (emphasis in original).

World War II posters rhetorically appropriated patriotic symbols (e.g., Uncle Sam) in order to encourage people to ration goods, buy war bonds, and enlist in the military. But there were also posters that were deliberately intended to instill in Americans a deep and abiding fear of what some government officials believed would happen if Germany and Japan were victorious. One poster, with a picture of two German soldiers, proclaimed: "If they win, only our dead are free. These are our enemies. They have only one idea—to kill, and kill, and kill, until they conquer the world." Another showed a Japanese soldier grabbing a young woman by the throat. Its warning: "Keep this horror from your home." (On the opposing side, the citizens of Germany and Japan were taught to believe that the USA was equally vicious and bent on destruction.) (LaRossa, 2011, pp. 19, 20).

People thus may not necessarily view the paradox as a zero-sum choice between country and family, because they may think that fighting for one's country is equivalent to—that is, in the same classification as—fighting for (and safeguarding) one's family. For example, letters written during the Civil War indicate "[m]any soldiers reconciled their dual responsibilities to country and family by the conviction that *in fighting for the one they were protecting the other*" (McPherson, 1997, p. 95, my italics). The fathers and mothers of these soldiers may have thought as well that country and family were intimately bound.

To put it in starker terms, there is an arithmetic of war that goes beyond the strategy of having more combatants than the enemy has, and figuring that your side will have greater numbers standing in the end. There is also a social logic that involves calculations of generalized exchange, whereby people think that in contributing to a greater good they will personally benefit as well (Ekeh, 1974; Yamagishi & Cook, 1993).

The reasoning is thus: What would have happened in World War II if America's parents had kept their children from serving in the military? The USA would have been forced to surrender and the very children the parents were trying to protect would not have been protected at all. But suppose only a small percentage of parents kept their children from serving, while the vast majority did not? In this instance, the USA would have a chance to win the war because there would be enough soldiers to protect the nation (i.e., its people).

This is the very paradox that some fathers and mothers, under certain circumstances, believe they face in trying to decide whether to encourage their children to serve. For them, it is not a question of deciding whether to protect their children or protect the nation, because, in their minds, protecting their children and protecting the nation are overlapping goals. According to their calculations, if no child were to serve in the military, the nation (and the children in it) would be doomed. Parents who utilize this social logic would encourage their children's enlistment. They also would think of themselves as good parents, because they would believe that, by encouraging enlistment, they were protecting their children (and their children's children, etc.). This mode of thinking is more likely if the external threat is thought to be great and if people fear that the homeland is going to be directly attacked.

There is yet another way to view the paradox and still feel that one is protecting children and also protecting the nation. Some parents may be conscientious objectors (CO) who hold that all wars—or certain wars—endanger both their children and the nation. From a cognitive sociological perspective, CO parents might classify themselves as not only good parents but also ardent patriots who believe that they are trying to protect both their children and the nation through non-violent means. Embracing this idea, however, brings into bold relief the fine line that CO parents must walk, similar to the one that conscientious objectors in general must walk (e.g., see Baskir & Strauss, 1978, pp. 40–41). For if it appears to friends and neighbors that the parents are adopting a CO mindset *only* to protect their children, the parents' motives could be classified as selfish (because their sole concern seems simply to be the safety of their own kids). To avoid this categorization, conscientious objectors strive to get others to define their efforts as patriotic (Burk, 1995). They, for example, endeavor to make the case that they are as loyal to the nation as the fathers and mothers who encourage their children to join the military. What is "different," they suggest, is how they exhibit their loyalty. Thus, during a Vietnam War protest in Washington, D. C., in October of 1969, antiwar demonstrators appropriated the symbolism (social significance) of the American flag as an emblem of patriotism and encouraged antiwar sympathizers to lower their flags to half-staff. In response, prowar demonstrators encouraged prowar sympathizers to fly their flags at full-staff "as a symbol of confidence in the President [i.e., Nixon]" (Bigart, 1969). Another illustration—one that is especially powerful and poignant—is the Los Angeles mother of two who set herself on fire to express her opposition to the Vietnam War ("Woman, in War Protest, Burns Herself to Death," 1967). Some observers might classify the mother as un-American. Others might classify her as a martyr for a patriotic cause.

Central to the CO position and central also to those who take a position in support of a war or against it are the collective memories that people have of past wars (Zerubavel, 2003). For conscientious objectors, their memories might be that "wars have never solved anything" or that "wars are futile and only make things worse." Those who believe that wars are inevitable and sometimes necessary might have a different recall of the historical consequences of past conflicts. They might craft a narrative of how terrible things would be "if certain wars were not fought and won."

Collective memories are selective, with different thought communities having different ideas on what should be included in a narrative and what should be ignored (Gillis, 1994), and thus it should not be surprising if those who believed in the utility of war were to socially focus on what they felt were "successful" wars, whereas those who believed in the futility of war were to socially focus on what they felt were "unsuccessful" wars. (The perceived success of any war, needless to say, depends on who was victorious and who was not.) How current military actions sociomentally compare to past military actions is a crucial element in the social logic of child and national protection. How different wars are cognitively compartmentalized is fundamental to people's attitudes toward war and children's role in war (Schuman & Rieger, 1992).

### *6.3.4 Circumstances Where Protecting the Child Is Thought of as Paramount*

During much of the Civil War, Robert Todd Lincoln—the son of Abraham Lincoln and Mary Todd Lincoln—was an undergraduate at Harvard University and far from front. As the war dragged on, he, however, expressed a strong desire to enter the military, in part to answer critics who were calling him a "shirker" for not being in the fight while, at the same time, being "old enough and strong enough to serve his country." The President and First Lady had earlier lost two sons (though not to the war), and Mrs. Lincoln was afraid that she would lose another if Robert were to join the battle. ("Of course, Mr. Lincoln, I know that Robert's plan to go into the Army is manly and noble and I want him to go, but oh! I am frightened he may never come back to us.") Putting aside his wife's reservations, Lincoln determined that Robert could enlist after graduation; but, sensitive to her fears (and perhaps also his own), he took the initiative to write Commanding General Ulysses S. Grant to ask whether his son could be given "some nominal rank" but not be placed "in the ranks." ("Please read and answer this letter as though I was not President, but only a friend. My son, now in his 22 year, having graduated at Harvard, wishes to see something of the war before it ends ….") Grant expeditiously replied to the President's request and conferred upon Robert the rank of Captain. He also gave Robert a staff position that "made sure that [he] was not exposed to danger" (Donald, 1995; Lincoln, 1865).

The military posting that Lincoln was able to arrange for his son illustrates what is a fairly common but not frequently touted option in the paradox, where a parent endorses the notion of a child being in the military (or endorses the notion of a child being at risk of having to join in the military)—thus seeming to certify the parent's (and child's) patriotism—*but* instead of the child's contribution to the protection of the nation being first and foremost in the parent's mind, it is the protection of the child that is paramount. It is not that the parent is uninterested in protecting the nation (Lincoln clearly wanted to preserve the union). The parent, however, is less inclined to want to place her or his own child in harm's way in support of that goal.

A context for this scenario (and essential to understanding it) is that being in the military but not actually in the fight is what happens to most soldiers in times of war. In the military as a whole and in various armed conflicts, the majority of soldiers will never personally know what it means to be in battle. In World War II, for example, of the more 16 million Americans who served, only 10 % saw combat, and even fewer (about 800,000) "took part in any extended combat" as army infantrymen or marine rifleman (Linderman, 1997, p. 1; see also LaRossa, 2011). In the Vietnam War, of the 2.5 million Americans in the military, from 10 to 25 %, depending on the stage of the war and the location of a soldier's unit, were involved in combat (Lair, 2011, p. 25).

For some soldiers, whether they end up in combat is a matter of chance, much the same as it is often luck (and a difference of inches or milliseconds) that separates those who survive a military encounter from those who do not. It is possible, however, for a soldier (or a potential recruit/draftee) to game the system and decrease the risks associated with being in the service. A case in point is that, during the Vietnam War, enrollment in college could make one exempt from the draft; and many young men, with the full endorsement of their parents, chose to go to college and remain in college not because they necessarily prized getting a degree but because they wanted to avoid being sent to Vietnam (Baskir & Strauss, 1978, pp. 29–32; Curry, 1985, pp. 66–67).

Toward the end of the Vietnam War, getting military deferments had become systematic and, for some, a family affair. The director of Selective Service in New York City commented, "[P]eople want to fail [service-induction examinations] and they're finding ways to do it." Said a draft counselor, "When I first started out, you didn't get anybody whose families were behind [children seeking to avoid the draft]. *Now their fathers come in with them*" (my italics). Not every parent was keen on the draft counseling their sons might seek. One college-age youngster, who was worried about being inducted and who was trying to get an educational deferment (e.g., as an apprentice welder), disclosed: "When my father heard I was trying to get out, he was angry. Called me a traitor; said he fought in World War II" (Braun, 1970). The intergenerational conflicts between World War II veterans and their children were especially acute during the Vietnam War (Rosenheck & Fontana, 1998). It also is true, however, that some World War II combat veterans—knowing the horrors of war all too well—hoped to shield their children from going through what they had.

Those who felt it was inevitable that they would be called up to serve, and who were not eager to flee the country (e.g., head to Canada), could wait to see what would happen to them when they were drafted (would they be required to be foot soldiers or would they be assigned to the motor pool?). Or they could visit a recruiting center and negotiate for a branch of service that would pose less risk. Thus, for example, some men in the 1960s, rather than wait to be drafted, enlisted in the National Guard. At the time, National Guard units rarely were sent overseas (Ryan, 2009, p. 110).

For some parents, it may not have made any difference to them that their children were trying to avoid combat and they may have been fine with the idea that friends and neighbors might challenge their efforts to protect their children above all else.

This would be more likely if there was a sense that a particular war was unjust, as the Vietnam War was thought by many to be. There could be circumstances however, where even if a war was socially classified as illegitimate, to acknowledge that one had volunteered for a particular branch of service for the express purpose of escaping the fight would mean risking being called a chickenhawk. This is the classification that some tried to apply to George W. Bush during the 2000 Presidential election. Records indicate that Bush, who graduated from Yale University in 1968, gained rapid entry to the Texas Air National Guard soon after Yale's commencement, possibly moving ahead of thousands of others who were on a waiting list. Because it could be unseemly for a Presidential candidate—and possible future Commander in Chief—to be thought of as a shirker, the Bush campaign vigorously denied that Bush's father (a World War II combat pilot and future President) and/or Bush's well-connected friends had worked behind the scenes to ensure that the younger Bush would be given preferential treatment (Ryan, 2009, pp. 109–111).

How one answers the question, "What were Bush's true motives?" is, of course, contingent on one's political thinking (i.e., party leanings). In response to the Bush story, conservatively-minded folk might be quick to note that, during his run for the Presidency, William Jefferson Clinton also was accused of having dodged the draft, by enrolling for a brief period in a Reserve Officer Training Corps (R.O.T.C.) program after he graduated in 1968 from Georgetown University, but not continuing with the program once he felt he no longer would be drafted and possibly sent to Vietnam ("Bill Clinton's Vietnam War test," 1992; Ryan, 2009, p. 109).

Another tactic that has been used to minimize wartime risk involves deciphering which military occupational specialties are more likely to keep a soldier out of battle and away from combat zones. Thus, when someone is being actively recruited for military service or susceptible to being drafted, he or she might negotiate not only for a branch of service but also for an MOS that would pose less danger. The Vietnam War again provides examples. Some men, figuring they were going to get called up no matter what, volunteered for military duty in the hope that, by taking the initiative, they could exercise some control over what their MOS would be (Curry, 1985, p. 81).

Because the missions of the Army, Navy, Air Force, and National Guard tend to be broad, all four branches have a number of MOS's that, relatively speaking, are low-risk. Even the Marine Corps—recognized for its combat history—has MOS's with different levels of possible peril. In a study of 163,939 Marines, it was found that an infantry MOS posed the greatest risk (40,760 of the Marines in the sample, or about 25 %, were categorized as infantry), whereas other specialties posed less risk. Some of these non-infantry specialties included aircraft maintenance, logistics, and supply administration and operations (Gronroos, Zouris, & Wade, 2009).

War, of course, is ruthless and capricious, and there is conceivable danger for anyone who serves. Still, there is no denying that some military assignments are more hazardous than others. Soldiers fully recognize this and will openly talk about it, even if civilians may not. At the end of World War II when the military was making decisions as to who would get to go home first, some fighters took exception to the fact that there were men who were included in the early rounds of re-deployment even though

they had not seen combat, but who were technically assigned to combat units (and hence socially classified within the units) and had received the same combat credits as those who had been in the thick of it (LaRossa, 2011, pp. 69–70). "To me, there were two different wars," said one former Marine (E. B. [Sledgehammer] Sledge) who ventured to describe the border between the two. "There was the war of the guy on the front lines. You don't come off until you're wounded or killed. Or, if lucky, relieved. Then there was the support personnel. In the Pacific, for every rifleman on the front lines there were nineteen people in the back" (cited in Terkel, 1984, p. 57).

Presently, there is no draft in the USA and the military relies entirely on volunteers. Yet the country is at war. American's parents want the nation to be protected, but fewer than one in three fathers and one in four mothers have said they would recommend military service to a child (Carvalho et al., 2008, p. 14). Proportionately, the number of men and women in the military is but a small fraction of the US population. Most parents thus do not want their children to serve and do not have children who are in uniform, but benefit from the fact that *other people's children* are on the front lines protecting them and their families. Some have questioned the fairness of this scenario (Ryan, 2002, 2009).

## 6.4 Conclusion

My objective in this chapter—theoretical in its expression—has been to describe the quandaries that arise in times of war and articulate the social mindsets of parents of soldiers (or potential recruits/draftees), as they prioritize—and, in some cases, reconcile—protecting their children, on one hand, and protecting the nation, on the other. Employing a social constructionist approach and drawing on key concepts in cognitive sociology (i.e., social perceiving, social focusing, social signifying, social timing, social remembering, and social classifying), I proposed a reconfiguration of a paradox of care that acknowledges both fathers and mothers and lays out five possible scenarios of protection. In scenario one, protecting the children takes complete precedence over protecting the nation (i.e., one's own children are kept from military service). In scenario two, just the opposite is true: protecting the nation takes complete precedence over protecting children (i.e., the nation is protected, with the understanding that one's own children can be sacrificed on the battlefield). In scenario three, protecting the children is thought to be primarily important, while protecting the nation is secondarily important (i.e., one's own children may serve in the military but, one hopes or ensures, not in a combat role). In scenario four, protecting the nation is thought to be primarily important, while protecting the children is secondarily important (i.e., one's own children may serve in the military in a combat role but one's expectation is they will be protected from harm and will return home safe). In scenario five, the two mandates are thought to be overlapping and equally important (i.e., to protect the nation is to protect the children, and vice versa).

The scenarios raise a number of questions for military family researchers to ponder. One that is germane to the issues presented here is whether fathers and

mothers tend to think differently about the paradox. Are mothers more likely than fathers to think that protecting the children should come first (scenario three)? Are fathers more likely than mothers to think that protecting the nation should be primary (scenario four)? If a father and mother subscribe to different scenarios, how are the conflicting opinions communicated (not just to each other but also to their children), and how do the opinions play out in terms of their children's military-service decisions?

Also worth asking is whether the gender of the child makes a difference. Might a father or mother be more protective of a daughter who chooses to serve? What if that daughter has a good chance of being sent into combat? One DOD study found that fathers were less likely to support a daughter's decision (vs. a son's decision) to join the military. The same study found that mothers were equally supportive of either a son or daughter deciding to join. (Fathers, however, were more supportive of a child's decision to join than were mothers.) (Carvalho et al., 2008, p. 18). Yet another question is: what happens if a family has two or more children in the military. Is there a feeling among some parents that only one of their children should be in combat role at any given time? In a full-scale war, however, this may not be a guaranteed option.

What about a parent's veteran status; how might it play a part? DOD research shows that veterans and active-duty personnel are more likely to recommend military service to youth (Boehmer et al., 2004, p. 37). Since fathers are more likely than mothers to have served in the military, fathers tend to be more supportive of a child's decision to enlist. How might this manifest itself, when it comes to the paradox? One possibility is that veteran fathers might be more likely than nonveteran fathers to think that there can be circumstances where protecting the nation should be primarily important (scenario three). Another possibility is that veteran-fathers might be more likely than nonveteran fathers to think there can be circumstances where protecting the nation should be exclusively important (scenario two). Whatever the scenario, it is likely that veteran fathers, compared to nonveteran fathers, would be more familiar with, and more watchful of, the preparation for battle that their children receive. Said a dad who had served: "I was fearful for his safety. But I thought that he is a professional soldier, *well trained*, …." Military experience can, in addition, be a source of pride and an important factor in calculating the depth of a person's obligation to protect the homeland. Said the same dad: "My son, like his father and grandfather, is a member of what I would call America's warrior class. I felt that *when America needs hard men to answer the call*, *then* [*my son*] *will be there* …." (cited in Crow & Myers-Bowman, 2011, pp. 174, 181, my italics).

As for the cognitive acts themselves, they figure into how the scenarios are imagined and enacted. Indeed, defining what it means to protect children and/or the nation requires an invocation of the cognitive acts. How do we know protection when we see it? What exactly are we supposed to identify and judge? Which elements of care (of children or nation) are fundamental? Which are immaterial? When is protection symbolically sacred? When is it medal-deserving brave? At what point should protection begin? How long should it last? Whose toils should never be forgotten? Whose should not be recalled?

Finally, there can be value in considering the myriad ways that parents try to protect their children (not just from enemy attack, but from disease and assault and psychological pain) and in investigating how the dilemmas that parents confront in times of war are similar to, but also different from, the dilemmas they have to deal with throughout their children's lives. Parents want to keep their kids safe. The central question always has been—and continues to be—*how*.

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# Chapter 7
# Parenting Styles in Military and Civilian Families with Adolescents: The Impact of Deployment, Mood, and Marital Satisfaction

**Major Kimberly A. Speck* and David S. Riggs**

**Abstract** US Military personnel and their families have been coping with repeated combat deployments for almost 15 years. The impact of this ongoing stress on parental and child psychological health has been documented, but little is known of the impact of repeated combat deployments on parenting behaviors, particularly among parents of adolescents. This chapter reports on the findings of a study examining parenting styles among military and civilian parents as well as the potential impact of deployment stress on parenting. Data from online surveys completed by 316 mothers of children aged 12–18 were analyzed. Results indicated that military-connected mothers were more restrictive in their parenting than were the civilian mothers, and as a result a greater percentage of military-connected mothers were classified as Authoritarian (43 %) or Authoritative (24 %). Parenting style variables were not related to the number of deployments, total time deployed, or percent of career time deployed. However, they were related to demographic characteristics of the sample including age, years in the current home, and number of moves experienced during the child's life. Unexpectedly, parenting variables among the military-connected were not related to measures of depression, anxiety, stress and

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marital satisfaction. However, these variables were significantly related to parenting style among the civilian participants. Findings are discussed with a focus on the need for additional research into the potential positive and negative impact of differing parenting styles on the adjustment of military families and children as they cope with deployments and other stresses common to military life.

**Keywords** Parenting • Anxiety • Nurturance • Restrictiveness • satisfaction

The US military force comprises more than 2.2 million service members (Department of Defense; DoD, 2011). These service members are outnumbered by their three million dependent family members. Over 1.2 million of these family members are children and adolescents (Office of the Under Secretary of Defense, 2013).

Since 2001, over two million service members have been deployed in support of the wars in Iraq and Afghanistan (Chandra et al., 2011) and nearly that many children have experienced a parent deploying (DeVoe & Ross, 2012). These deployments have differed from those for previous US wars in that many service members have been deployed multiple times, sometimes with little time at home between deployments (Chandra et al., 2011; Lemmon & Chartrand, 2009; Mansfield et al., 2010). During deployments, military families must deal with shifts in roles and responsibilities as well as worry about the deployed member's safety. Chandra and colleagues (2009) found that adolescents who had a parent currently or previously deployed endorsed significantly more problems, both emotional and behavioral, than civilian adolescents. They also found that older adolescents (15–17 years) had more difficulty adjusting to deployment than younger ones (11–14 years) and that all of the adolescents had a more difficult time adjusting the longer the deployments lasted and the more frequently they occurred.

Several factors have been identified that might serve to moderate or mediate the impact of deployments on children and adolescents. Data indicating that military deployments are associated with increased parental anxiety and depression (Hoge et al., 2004; Lawer, Flori, Volk, & Davis, 1997; Mental Health Advisory Team VI Report, 2009; Milliken, Auchterlonie, & Hoge, 2007; Seal et al., 2009) and decreased marital satisfaction (McLeland & Sutton, 2005; Renshaw, Rodrigues, & Jones, 2009) suggest mechanisms through which deployments may impact children. Substantial research using non-military samples documents the negative impact of parental anxiety (Herwig, Wirtz, & Bengel, 2004), depression (Bluestone & Tamis-LeMonda, 1999; Breznitz & Sherman, 1987; Cohen, Campbell, Matias, & Hopkins, 1990; Herwig et al., 2004; Koblinsky, Kuvalanka, & Randolph, 2006; Lovejoy, Graczyk, O'Hare, & Neuman, 2000; Silberg & Rutter, 2002), and marital distress (Bond & Mahon, 1984; Cox, Owen, Lewis, & Henderson, 1989; Easterbrooks & Emde, 1988; Harrist & Ainslie, 1998; Jouriles, Pfiffner, & O'Leary, 1989) on child adjustment. Further, recent studies suggest that military children's adjustment during a deployment is related to how well the non-deploying spouse is coping with the deployment (Chandra et al., 2009; Lester et al., 2010).

Research indicates that parenting styles characterized by high levels of support for the child (nurturance) and the setting of limits for the child (restrictiveness) are associated with more positive outcomes in children and adolescents (Baumrind, 1966, 1991; Brand, Hatzinger, Beck, & Holsboer-Trachsler, 2009; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Luyckx et al., 2011; Steinberg, Mounts, Lamborn, & Dornbusch, 1991; Wolfradt, Hempel, & Miles, 2003). There is also a substantial literature indicating that parental depression (Egami, Ford, Greenfield, & Crum, 1996; Goodman & Brumley, 1990; Lovejoy et al., 2000; Silberg & Rutter, 2002; Tyler, Allison, & Winsler, 2006) and relationship distress (Bond & Mahon, 1984; Cox et al., 1989; Easterbrooks & Emde, 1988; Harrist & Ainslie, 1998; Jouriles et al., 1989) are related to the increased use of parenting styles that are associated with poorer child outcomes. Research indicates that combat deployments are associated with increased depression (e.g., Hoge, Auchterlonie, & Milliken, 2006; Mansfield et al., 2010; Warner, Appenzeller, Warner, & Grieger;, 2009) and marital distress (e.g., Mental Health Advisory Team VI Report, 2009) among deploying service members and their spouses. Taken together, these results suggest a model in which deployment increases parental depression and relationship distress which, in turn, contribute to changes in parenting that lead to increased difficulties for military adolescents. The present study represents an initial attempt to examine parenting style and its relation to combat deployment as well as the potential mediating roles of parental mood and relationship distress.

## 7.1 Parenting Styles and the Impact on Adolescents

Historically, researchers' and theorists' have converged on the idea that two primary dimensions can be used to describe parenting (Thomas, Gecas, Weigert, & Rooney, 1974), although some have suggested a third dimension could be useful in understanding parenting style (e.g., Becker, 1964; Bronfenbrenner, 1961; Rollins & Thomas, 1979; Slater & Power, 1987). There is some disagreement as to the specific terms to use to identify the two dimensions; they are generally conceptualized as one of support (nurturance) and one of control (restrictiveness). Nurturance indicates the degree to which parents use flexible child-rearing practices, pay attention to and share feelings and experiences with their children (Rickel & Biasatti, 1982). Restrictiveness refers to the setting of limits on the child as well as control-related attitudes and practices of child-rearing (Rickel & Biasatti, 1982). Typically, four parenting styles are derived from these dimensions: (1) authoritarian, high on control and low on support; (2) permissive, high on support and low on control; (3) authoritative, high on both control and support; and (4) neglectful, low in both control and support.

Research has demonstrated a link between parenting style and children's behavior, psychological functioning, academic performance and coping. A majority of these studies suggest that an authoritative parenting style, one that is high in both restrictiveness and nurturance, is associated with the most positive child outcomes.

Although most studies of parenting style and children's adjustment focus on young children, a few studies of adolescents exist. For example, in a study of 139 15-year-old adolescents and their parents, Baumrind (1991) found that authoritative parents had children that were most competent and least susceptible to problem drug use. Similarly, a 12-year longitudinal study of children and adolescents age 6–18 found that authoritative parenting was associated with decreased likelihood of negative child outcomes including alcohol use, smoking, antisocial behavior, and internalizing symptoms (Luyckx et al., 2011). Overall, it appears that parents who are high in restrictiveness and nurturance have children who are more likely to be more active, be leaders, and be less fearful.

Research has found that parenting high in nurturance and restrictiveness is also associated with better school performance. Steinberg, Elmen, and Mounts (1989) found that children/adolescents with authoritative parents had higher grade point averages, even after controlling for achievement test scores and demographic factors. Dornbush, Ritter, Leiderman, Roberts, and Fraleigh (1987) concluded that both authoritarian (low nurturance and high restrictiveness) and permissive (high nurturance and low restrictiveness) parenting styles were negatively associated with grades. In contrast, authoritative parenting was positively associated with grades.

Authoritative parenting and characteristics of that parenting style are generally associated with better psychological functioning among adolescents. For example, adolescents of authoritative parents have been found to have lower levels of depression (Radziszewska, Richardson, Dent, & Flay, 1996), higher social competence scores, lower behavioral and psychological dysfunction scores (Lamborn et al., 1991), and better relationships with parents and peers (Hall & Bracken, 1996). Similarly, Maccoby and Martin (1983) found that parenting characteristics of warmth, firm control, and autonomy in the authoritative parent were related to higher psychological and social functioning in the child.

Several studies have identified a link between parenting style and children's approach to coping with stressful situations. Coping that might be of particular importance to adolescents dealing with parental deployment. For example, Dusek and Danko (1994) found that adolescents who described their parents as authoritative used more problem-focused coping than adolescents who indicated their parents used a different parenting style. Adolescents who described their parents as neglectful (low nurturance and restrictiveness) engaged in less problem-focused coping and more emotion-focused and cognitive coping than adolescents who indicated that their parents had higher levels of nurturance and restrictiveness. Individuals with indulgent (low restrictiveness and high nurturance) and authoritarian (high restrictiveness and low nurturance) parents tended to use mixed coping strategies. Similarly, Wolfradt et al. (2003) reported that parental warmth (nurturance) was positively associated with active coping and negatively associated with anxiety in high school students. Students whose parents were authoritative (high nurturance and restrictiveness) or permissive (high nurturance and low restrictiveness) had high levels of active coping and low levels of depersonalization. In contrast, students with authoritarian (high restrictiveness and low nurturance) parents had higher levels of depersonalization, anxiety, and passive coping, as well as

lower levels of active coping than other students. Indifferent, or neglectful, parenting style (low nurturance and restrictiveness) related to low levels of active coping and moderate levels of depersonalization and anxiety.

In summary, the existing research suggests that, for the most part, adolescents whose parents display high levels of nurturance and restrictiveness have better outcomes. Steinberg et al. (1991) concluded that "virtually regardless of their ethnicity, class, or parents' marital status, adolescents whose parents are accepting, firm and democratic earn higher grades in school, are more self-reliant, report less anxiety and depression, and are less likely to engage in delinquent behavior" (p. 19).

## 7.2 Parenting in Military Families

Military life carries a unique combination of characteristics that may impact parenting. These include frequent moves, temporary absences, living life under the "mission must come first" motto, an expectation for the family to conform to a regimented lifestyle, threat of loss during deployment, feeling detached from mainstream society, and the lack of personal control over pay, promotion, and other benefits (Hall, 2008).

Discipline and control are the heart and soul of the military, and many members of the military may not only accept these concepts, but thrive on them (Hall, 2011). Therefore, it would not be unusual for this way of life to generalize into their home life and present itself as restrictiveness. In fact, 80 % of the military "brats" Wertsch (1991) interviewed described their families as very disciplined with high expectations of conformity. Wertsch (1991) relates growing up in a military household to living in a fortress, an authoritarian society. She states that in military families "the notion of conformity, order, and obedience reign supreme" (p. 24).

The unique challenges faced by military families raise the possibility that these families use different parenting styles than civilian families. For example, military families tend to move more frequently than do their civilian counterparts. As a result, military families may live in different cultures and climates, their children may attend multiple schools before graduation, and they may find themselves isolated from extended family members. Military families also must deal with the forced separations due to deployments, training schedules, and temporary duty assignments. It is generally thought that military communities tend to be extremely close-knit with military families feeling a common sense of mission, facing similar difficulties such as deployments and moves, and seemingly understanding and supporting each other more than in many civilian communities. We hypothesized that differences in experience and community characteristics may contribute to differences in parenting style between military and civilian families.

The apparent impact of parenting style on the adjustment and well-being of children suggests that parenting styles might help moderate the effects of combat deployment on children whose parents serve in the military. Furthermore, the potential negative emotional impact of deployments on both the deploying Service member

and the non-deploying spouse may affect parenting styles such that parenting style serves as a mediator between the deployment experience and behavioral/emotional difficulties or well-being among in adolescent children of military families.

## 7.3 Negative Emotional Impact of Combat Deployment on Military Families

### *7.3.1 Service Members*

Combat deployments are inherently stressful and though service members may experience significant growth through their deployments, there are also a number of negative outcomes associated with combat deployment. For example, combat deployment is associated with increased psychological difficulties including PTSD, depression, and anxiety. Estimates from studies of service members and veterans suggest that as many as one-third of service members may experience significant psychological health difficulties during or following combat deployments (Hoge et al., 2006, 2004; Mental Health Advisory Team VI Report, 2009; Milliken et al., 2007; Seal et al., 2009).

### *7.3.2 Spouses*

Deployment has been shown to have a negative impact on the spouses and partners of deploying service members. During deployment, the non-deploying parent tends to report increased parenting stress and changes in expectations and parenting rules (Kelley, 2002; Kelley, Herzog-Simmer, & Harris, 1994). Among 295 spouses of deployed service members, the most significant stressors reported included: raising young children alone (63 %), childcare issues (40 %), and caring/raising and disciplining children while their spouse was gone (56 %) (Warner et al., 2009). Spouses dealing with a deployment had a mean Perceived Stress Scale (PSS) score almost seven points above the established norm of 19.62. Each point that the Perceived Stress Scale increased was related to a 1.21 times greater risk of meeting criteria for clinical depression. In fact, nearly half of the spouses in the study met criteria for depression (Warner et al., 2009).

In a study of the electronic medical records of more than 250,000 wives of active duty Army soldiers, researchers found that wives of soldiers who had deployed were more likely to be diagnosed with depression, sleep disorders, anxiety, acute stress reaction, and adjustment disorders than wives whose husbands did not deploy. Among wives whose husbands deployed, those who experienced more than 11 months of cumulative deployment time had higher rates of depression, anxiety and adjustment diagnoses than those coping with shorter deployments (Mansfield et al., 2010). Lester et al. (2010) found that at-home-civilians partners (as well as the active duty spouses) of recently and currently deployed service members had

elevated levels of global distress, anxiety, and depression compared to norms from community samples. Again, the duration of the deployment was related to distress, such that longer deployment was significantly related to more global distress and more depressive symptoms for the civilian partner (Lester et al., 2010). Lawer et al. (1997) surveyed 450 spouses of Oklahoma National Guard members who were mobilized to the Persian Gulf War. They found that compared to civilian controls, these spouses reported more feelings of depression and anxiety and lower sense of psychological well-being. In general, deployment appears to be related to increased anxiety and depression in the stay-behind spouse.

### *7.3.3 Adolescents*

Research has indicated that deployment can have a negative impact on multiple areas of a child/adolescent's life. Using a focus groups of adolescents (ages 12–18), Huebner and Mancini (2005) reported elevated problems related to a loss of interest in activities, social withdrawal, changes in sleeping and eating patterns, sadness, crying, and worry about their deployed parent's safety. Chandra and colleagues (2010) had similar findings using focus group strategies with school staff of Army families. These staff members reported that when parents deployed children and adolescents became more angry and sad which had a negative impact on academic performance and peer relationships.

In a study of children applying to Operation Purple Camp (a free camp for children of military service members) Chandra and colleagues found that adolescents (ages 11–17) endorsed higher levels of emotional difficulties than national samples (Chandra et al., 2011). Similarly, Jensen and colleagues found that children of Army officers and senior enlisted personnel who had fathers that were deployed reported higher levels of depressive and anxiety symptoms than children whose fathers were present (Jensen, Grogran, Xenakis, & Bain, 1989). As with studies of military spouses, studies of children's adjustment indicate that longer total time spent on deployment is associated with increased symptoms and distress (Chandra et al., 2011; Jensen et al., 1989).

## 7.4 Depression, Anxiety and Parenting

Researchers have found that symptoms of parental depression are associated with parenting characterized by less nurturance and discipline. For example, Bluestone and Tamis-LeMonda (1999) found that depressed mothers were less likely to engage in parenting characterized by flexibility, willingness to allow the child to express his/her opinion, and firmness of discipline, characteristics similar to authoritative parenting. Mothers who are depressed are also less likely to discipline, provide structure, or enforce rules when compared to non-depressed mothers (Goodman & Brumley, 1990). Similarly, mothers who are depressed have also been shown to be

less emotionally responsive to their children (Lovejoy et al., 2000; Silberg & Rutter, 2002) and more likely than non-depressed mothers to engage in neglectful behaviors (Egami et al., 1996; Tyler et al., 2006). Along these same lines, Herwig et al. (2004) found a positive correlation between maternal depression and parenting laxness and over reactivity. Koblinsky and colleagues (2006) found a negative correlation between maternal depression and positive parenting as measured on the four aspects of nurturance, responsiveness, consistency, and control.

Very little research has examined the relationship of parental anxiety and parenting style and the few published studies show mixed results. For example, Moore, Whaley, and Signman (2004) examined parenting and anxiety in a sample of 68 mother–child dyads with children ranging in age from 7 to 15 years and found no significant relationship between maternal anxiety and parenting warmth or granting of autonomy. Herwig et al. (2004) found a positive correlation between maternal anxiety and parenting laxness and over reactivity. Despite the inconsistent findings relating parental anxiety to parenting style, anxiety was a potentially important variable to examine in the current study because of the increased anxiety associated with the deployment of a loved one (MHAT, 2009; Lester et al., 2010).

## 7.5 Marital Satisfaction and Parenting

Extensive research indicates that a satisfying and supportive marital relationship is related to positive parenting behaviors, particularly nurturance (Bond & Mahon, 1984; Cox et al., 1989; Easterbrooks & Emde, 1988; Harrist & Ainslie, 1998; Jouriles et al., 1989). Additionally, marital hostility is correlated with parenting styles characterized by less nurturance and more restrictiveness (Dielman, Barton, & Cattell, 1977; Jouriles et al., 1989; Stoneman, Brody, & Burke, 1989). In one longitudinal study, Bonds and Gondoli (2007) followed 148 mothers over 3 years. They found that marital adjustment at year one was correlated with greater maternal warmth at that assessment and also with measures of maternal warmth 2 years later. A meta-analysis conducted by Erel and Burman (1995) that included 65 studies found significant support for the positive relationship between marital relationship quality and parent–child relationship quality with a composite mean weighted effect size of 0.46.

## 7.6 A Study of Parenting Styles in Military Families

We conducted a study with three aims: (1) to compare parenting styles in civilian and military families; (2) to examine the potential relationship between deployment and parenting in military families; and (3) to test the prediction that parental anxiety, depression, and marital satisfaction serve to mediate the relationship between deployments and parenting style within military families. Although the original

intention of this study was to conduct separate analysis on females and males response data, the sample size of fathers was relatively small. Therefore, the analyses were conducted only with data collected from mothers.

Because of the unique stressors experienced by military families, we hypothesized that military families would report similar levels of nurturance but higher levels of restrictiveness than would civilian families. Further, we hypothesized that more total months of deployment would be related to parenting style characterized by less nurturance and more control. Previous studies have reported an inverse relationship between parental depression and child-centered parenting styles (Bluestone & Tamis-LeMonda, 1999) and a correlation between parent's depression and parenting laxness and over reactivity (Herwig et al., 2004). Research has consistently found that marital distress/dissatisfaction is associated with less parental nurturance and greater restrictiveness (Bond & Mahon, 1984; Cox et al., 1989; Dielman et al., 1977; Easterbrooks & Emde, 1988; Harrist & Ainslie, 1998; Jouriles et al., 1989; Stoneman et al., 1989). Therefore, we predicted that the relationship between months of deployment and parenting will be mediated by the level of parental depression, anxiety, and marital satisfaction.

## *7.6.1 Procedures*

### 7.6.1.1 Participants

The procedures and materials used in this research study were reviewed and approved by the Institutional Review Board (IRB) of the Uniformed Services University of the Health Sciences (USU) prior to initiating recruitment. Between January 2011 and February 2012 military and civilian parents were recruited from high schools near military installations in the Mid-Atlantic and Southeastern USA through announcements at PTA meetings and letters sent home to parents. Additional recruitment was conducted using online social networking sites targeting parents and military members; PTA group listservs, parenting support groups, and military resources. Recruitment also included flyers on local community bulletin boards at supermarkets, coffee shops, etc.; newspaper advertisements, and flyers at three different military medical facilities. Interested participants responded by logging on to the survey website or contacting the first author via email. Participants were required to have at least one child age 12–18 years living at home 10 months out of the year.

All data were collected via online survey. Instructions for access to the online survey were provided in the recruiting materials (e.g., advertising, written announcements, flyers) or a direct link was provided (e.g., electronic newsletter, webpage). Parents logged on to a secure site. They were prompted to electronically acknowledge consent to participate in the research project by clicking a "Yes, I agree to participate in this study" box. If they did not affirm their interest in participating in the survey, the web browser redirected them away from the online survey to another web page that thanked them for their consideration. Those who agreed to participate

completed an online survey that took approximately 20–30 min. The survey included the instruments listed below as well as a brief questionnaire including the requested information about demographics and information about deployment experiences. The participants answered questions one at a time as they appeared on the screen. Participants had the option to skip questions or to quit at any time. The participants were provided a list of community and Army resources and the contact information for the first author in case they have any questions or concerns about the study.

A total 659 potential respondents accessed the survey. Of these, 236 had no valid scale data and 10 were eliminated from analyses because they failed to indicate gender ($n=1$) or indicated that they did not have children ages 12–18 years ($n=9$). Therefore, the final potential sample consisted of 413 respondents 316 of whom were women. Due to the relatively small number of male respondents, we are reporting only data collected from the female participants. Respondents were classified as military families if they were currently or had been in the military, or if their spouse was currently or had been in the military. In the final sample 114 of the women were classified as part of military families and 202 as part of civilian families.

Demographic characteristics of this final sample are presented in Table 7.1. The present sample of military parents is comparable to the general military population (Office of the Deputy Under Secretary of Defense, 2013) in terms of race, but is substantially older than the broader military due to the requirement that the family include at least one adolescent child. Compared to the general military population, a greater proportion of the current sample also reported that they completed a college or advanced degree probably due to an overrepresentation of officers in the current sample. Participants from military and civilian families in the present study differed on several of the demographic characteristics reported. Specifically military participants were more likely to be minorities (non-Caucasian) ($\chi^2$ (2, $N=312$) = 12.97, $p=0.002$), were younger ($t(210)=-8.67$, $p<0.001$), had less education ($\chi^2$ (2, $N=316$) = 12.65, $p=0.001$), had been with their current partner fewer

**Table 7.1** Demographic characteristics

| | Military | Civilian | *p* |
|---|---|---|---|
| Age | 40.70 (6.93) | 47.29 (6.16) | <0.001 |
| Years partnered | 14.77 (6.61) | 18.98 (5.47) | <0.001 |
| Years in current location | 4.65 (4.91) | 10.90 (6.43) | <0.001 |
| Number of moves for eldest child | 5.19 (3.15) | 2.02 (2.18) | <0.001 |
| Number of children | 2.52 (1.31) | 1.93 (0.89) | <0.001 |
| Percent married | 89.4 | 81.7 | ns |
| Percent Caucasian | 72.1 | 88.1 | <0.005 |
| Gender of eldest child (percent male) | 58.9 | 57.9 | ns |
| Education (percent) | | | |
| Less than BA | 40.4 | 17.4 | <0.005 |
| BA | 30.7 | 34.2 | |
| Post-BA Degree | 29.0 | 48.5 | |

years ($t(263) = -5.62$, $p < 0.001$) and had lived in their current location fewer years ($t(312) = -8.96$, $p < 0.001$) than the civilian participants. Military participants also reported more moves ($t(313) = 10.49$, $p < 0.001$) and more children in the families ($t(311) = 4.11$, $p < 0.001$) than did civilian participants.

Deployment variables including the number of deployments, the total months of deployment, and the ratio of deployment time to total time in the military (expressed as a percentage) were calculated manually from the survey responses. Only deployments after 2001 were included. Respondents without any relevant deployments after 2001 were not included in the total months of deployment or the ratio of deployment time variable, in order to not artificially skew the variable with an excess of zero points. Months of deployment was calculated in whole months (16 days or more rounded up, 15 days or less rounded down).

#### 7.6.1.2 Measures

The *Child Rearing Practices Report* (CRPR; Rickel & Biasatti, 1982) is a 40 item self-report measure that yields a Nurturance score (22 items) and a Restrictiveness score (18 items). It was selected as a brief, valid, self-report measure of parenting style. The CPRP utilizes a 6-point Likert-type scale (range 6 = highly descriptive of me to 1 = not at all descriptive of me) with higher scores indicating greater levels of nurturance and restrictiveness respectively. The questionnaire format of the CRPR has been shown to have good reliability (Cronbach's alpha = 0.83 and alpha = 0.74 for restrictiveness and nurturance respectively) and construct validity (Dekovic, Janssens, & Gerris, 1991).

Based on initial screening of the CRPR data, we removed four outliers from further data analyses, Two of the civilian participants were removed due to extreme high restrictiveness scores (scores > 3.29 standard deviations above the group mean). One civilian and one military participant were removed due to extreme low nurturance scores (scores > 3.29 standard deviations below the group mean),

The *Depression Anxiety Stress Scales* (DASS; Antony, Bieling, Cox, Enns, & Swinson, 1998) is a 42 item self-report measure that yields three subscales (14 questions each): Depression (symptoms associated with depressed mood); Anxiety (symptoms of physical arousal, panic attacks, and fear); and Stress (symptoms such as tension and irritability). The DASS was selected as a brief measure of three constructs that have been found to be elevated in deployed service members and/or their spouses. The current study used the scale scores for each of the three scales: depression, anxiety, stress. The DASS has been shown to have excellent internal consistency with Cronbach alphas of 0.94 for Depression, 0.87 for Anxiety, 0.91 for Stress and convergent validity (Antony et al., 1998).

The *Couples Satisfaction Index* (CSI4; Funk & Rogge, 2007) is a four item self-report questionnaire to measure the level of marital satisfaction. Participants answer three questions on a scale of 0–5 and one question on a 0–6 scale, with higher scores indicating more satisfaction. The present study used a total score to estimate satisfaction. This measure has been found to have increased validity over the Marital

Adjustment Test (MAT) and validity similar to the Dyadic Adjustment Scale (DAS), the two most frequently used marital satisfaction measures in research (Funk & Rogge, 2007).

## *7.6.2 Results*

### 7.6.2.1 Military vs. Civilian Parenting Style Scores

Women's restrictiveness scores ranged from approximately 1–5 for both the military and civilian groups, with means between 2 and 3. Nurturance scores in both groups ranged from about 3 to the maximum possible score of 6.0. The means were between 5 and 6 and there were relatively small standard deviations (about 0.5). As predicted, women from military families (mean = 2.97, sd = 0.67) had significantly higher restrictiveness scores, $t(310) = 5.045$, $p < 0.001$, than their civilian counterparts (mean = 2.58, sd = 0.65). Contrary to our prediction, military mothers (mean = 5.23, sd = 0.56) were slightly less nurturing, $t(309) = -2.233$, $p < 0.03$, than the civilians (mean = 5.36, sd = 0.45). Attempts to transform the data failed to normalize the distributions. Non-parametric analyses (Mann–Whitney *U* test) produced substantively similar results to those above. We elected to report the parametric tests for nurturance to parallel those of restrictiveness. However, some caution should be used in interpretation of nurturance scores as these do not follow a normal distribution.

### 7.6.2.2 Median Splits and Four Parenting Styles

Parenting styles were evaluated according to a *combined group median* split (i.e., military and civilian together) on the two parenting domains. The median score for restrictiveness was 2.73 and for nurturance the median was 5.44. For these analyses, listwise deletion was used to ensure the sample size was the same for all cross tabulations. This only resulted in the removal of one Restrictiveness score for one respondent in the military sample. Values were rounded to two decimal places and counted as "low" if they were below the median, and "high" if they were at or above the median.

The two parenting domains were then cross tabulated to determine the percentage of respondents within each group falling into each of the four parenting styles. Forty-three percent of the respondents in the military sample fell into the Authoritarian style (high restrictiveness and low nurturance) as compared to 26 % of the civilians. The Authoritative (high restrictiveness and nurturance) characterized 24 % of the military sample and 15 % of the civilian sample. Among the military mothers, 23 % used a Permissive parenting (low restrictiveness and high nurturance) style as compared to 37 % of the civilians. Finally, Neglectful parenting (low in nurturance and restrictiveness) was identified in 10 % of the military sample and 23 % of the civilian sample. This pattern of parenting styles was significantly different across the two groups of women ($\chi^2$ (3, $N = 311$) = 20.47, $p < 0.001$).

Given the observed differences between the military and civilian groups on demographic characteristics, we examined the relations between the demographic characteristics and parenting style variables of restrictiveness and nurturance. Restrictiveness scores were significantly negatively correlated with age, $r(311) = -0.34$, $p < 0.001$, years partnered, $r(310) = -0.25$, $p < 0.001$, years in current location, $r(308) = -0.30$, $p < 0.001$, and positively correlated with number of moves, $r(310) = 0.22$, $p < 0.001$, but not significantly related to the number of children in the family, $r(311) = -0.34$, $p > 0.09$. Nurturance scores were positively associated with age, $r(306) = 0.21$, $p < 0.001$, and years in current location, $r(308) = 0.15$, $p < 0.01$, and negatively correlated with the number of moves, $r(309) = -0.16$, $p < 0.005$. Nurturance scores were not significantly related to years partnered, $r(308) = 0.06$, $p > 0.25$, or number of children, $r(310) = -0.07$, $p > 0.20$.

#### 7.6.2.3 Deployment and Military Parenting Style

Among the women in the military sample, the number of reported deployments ranged from 0 to 5 ($M = 1.57$) with 82 having dealt with at least one deployment (either deploying themselves or having a spouse who had deployed). Among those who had experienced at least one deployment, the average number of months deployed was 20.66 with a range from 5 to 72 months. The mean percentage of time in service that was spent deployed was 18.53 % with a range of 3.73–63.6 %.

None of the deployment variables were significantly correlated with the restrictiveness scores: number of deployments, $r(112) = -0.06$, months deployed, $r(81) = 0.03$, and percent time deployed, $r(81) = -0.09$ (all $p$'s $> 0.40$). Among those who had experienced a deployment, total months deployed, $r(80) = -0.13$, $p > 0.25$, and the percent of time deployed, $r(80) = 0.07$, $p > 0.75$, were not significantly related to nurturance. The number of deployments was significantly and negatively related to nurturance scores $r(111) = -0.20$, $p < 0.05$, However, there was only one respondent with five deployments, and this respondent had an unusually low nurturance score (3.11). With this one respondent removed from the analysis, the relationship was no longer statistically significant.

Although the correlations between deployment variables and parenting styles were largely non-significant, we did examine the relations between deployment variables and the hypothesized mediators, marital satisfaction, depression, anxiety, and stress. For these analyses the one participant with five deployments was removed as an outlier. No significant relationships between any of the deployment variables and any of the potential mediating variables were observed.

#### 7.6.2.4 Correlations Among Predictors

The correlations between the scale variables are shown in Table 7.2 with the data from the military women below the diagonal and data from the civilian women above the diagonal.

**Table 7.2** Correlations of parenting, relationship and distress measures

| | Restrictiveness | Nurturance | Relationship Satisfaction | Stress | Anxiety | Depression |
|---|---|---|---|---|---|---|
| Restrictive-ness | | –0.31*** | –0.10 | 0.16* | 0.16*[a] | 0.17* |
| Nurturance | –0.21* | | 0.32***[a] | –0.36***[a] | –0.28***[a] | –0.35***[a] |
| Relationship Satisfaction | –0.11 | 0.13[a] | | –0.31*** | –0.22** | –0.34*** |
| Stress | 0.05 | –0.12[a] | –0.16 | | 0.51***[a] | 0.64*** |
| Anxiety | –0.05[a] | –0.08[a] | –0.25* | 0.77***[a] | | 0.54***[a] |
| Depression | 0.00 | –0.06[a] | –0.41*** | 0.74*** | 0.68***[a] | |

*Note*: Correlations for military sample below the diagonal, correlations for civilian sample above the diagonal

Correlation significance: * $p<0.05$; ** $p<0.01$; *** $p<0.001$

[a]Correlation is significantly different from the corresponding correlation in the other sample

Among the women from military families, the CRPR restrictiveness and nurturance scales were negatively correlated with one another, $r(110)=-0.21$, $p<0.03$. However, neither restrictiveness nor nurturance showed the predicted correlations with relationship satisfaction, depression, anxiety, or stress. The CSI score was negatively related to the DASS, reflecting an expected inverse relationship between marital satisfaction and anxiety $r(101)=-0.25$, $p<0.05$ and depression $r(100)=-0.41$, $p<0.001$. However, relationship satisfaction was not significantly related to reported stress on the DASS, $r(101)=-0.16$, $p>0.10$. Finally, the DASS scores were highly correlated with one another, all $r$'s greater than 0.65, reflecting the co-occurrence of stress, anxiety, and depressive problems and shared method variance.

In the female civilian sample, the CRPR restrictiveness and nurturance scales were negatively correlated with one another $r(197)=-0.31$, $p<0.001$. As predicted, the restrictiveness scores were positively related to the DASS Stress $r(193)=0.156$, $p=0.029$, Anxiety $r(194)=0.155$, $p=0.03$, and Depression $r(194)=0.172$, $p=0.016$ scores. Also as predicted, the CRPR nurturance scores were negatively correlated with DASS Stress $r(193)=-0.357$, $p=0.00$, Anxiety $r(194)=-0.276$, $p=0.000$, and Depression $r(194)=-0.348$, $p=0.000$, scores. There was also a significant, positive correlation between the nurturance scale and the CSI4 $r(184)=0.323$, $p=0.000$. Among the civilian women, relationship satisfaction was significantly and negatively related to all three DASS scores, $r(180)=-0.31$, $r(181)=-0.22$, $r(181)=-0.34$, all $p$'s $<0.001$, for stress, anxiety and depression respectively. Finally, there were significant positive correlations among the three DASS scores, $r$'s range from 0.51 to 0.64, all $p$'s $<0.001$.

Examination of the correlations in the military and civilian samples suggested that there might be some differences in the relations observed among the variables in the two samples. To examine this possibility, we compared the respective correlation coefficients using $Z$-score transformations. Results of these comparisons revealed several correlations that differed between the two groups. In particular, the

nurturance scores from the CRPR were less strongly related to measures of depression, anxiety, stress and relationship satisfaction in the military sample than in the civilian sample (all $Z$ values $> 1.65$, all $p$'s $< 0.05$). The correlation between CRPR restrictiveness and DASS anxiety also was stronger in the civilian sample than in the military sample. In contrast, the correlations between the DASS anxiety scale and the other two DASS scales, depression and stress, were stronger in the military sample than in the civilian sample.

## 7.7 Implications and Future Directions

This chapter examines parenting styles among military families and the relation of those parenting styles to demographics, deployment experiences, parental emotional well-being, and relationship satisfaction. The picture of these families that arises from this study is somewhat different that we expected. In particular, the predicted relationship between deployment experiences and parenting did not emerge in the data. However, several potentially interesting findings regarding parenting among military families who have been coping with more than a decade of combat deployments did emerge.

As predicted, military mothers, compared to the civilian mothers in the study, indicated a more restrictive parenting style. Unexpectedly, military mothers also indicated somewhat less nurturance than their civilian counterparts, though this difference was small and, in general, both groups of mothers indicated high levels of nurturance. The image of military parenting that emerges from these results is consistent with the idea that the authoritarian structure of the military community extends into parenting practices. The culture of the military lifestyle is one that is rigid, regimented, and expects conformity (Hall, 2011). When these characteristics are carried-over into parenting style-they would highlight the characteristics of an authoritarian parent who emphasizes rigidly enforced rules and obedience. It is possible that differences observed in this study arise because the civilian parents who participated scored unusually low on the restrictiveness scale. Given the sampling procedures, it may be that parents who are open to participating in studies advertised through PTA meetings/groups, online networking sites focused on parents, and community bulletin boards might be more confident parents and therefore less restrictive. However, as military parents were largely recruited in the same manner, it is unlikely that this accounts for the observed differences.

Parenting style of the military mothers in this study might be related to aspects of the military lifestyle other than its authoritarian nature. Parenting variables, were associated with characteristics such as age, time in relationship, time in residence and number of moves such that younger mothers who had experienced more moves and spent less time in their current residence also indicated more restrictiveness and less nurturance in their parenting. Individuals in the military tend to get married and have children at younger ages than their civilian counterparts. Indeed, in the present study the military mothers were on average younger than the civilian mothers. The

finding that younger mothers utilized more restrictive styles of parenting is consistent with findings from previous studies (Barkin, Scheindlin, Ip, Richardson, & Finch, 2007; Frias-Armenta & McCloskey, 1998; Guttman & Eccles, 1999; Jansen et al., 2012; Regalado, Sareen, Inkelas, Wissow, & Halfon, 2004). This being said, it should also be noted that the differences observed in the present study may reflect differences that existed prior to these mothers becoming affiliated with the military. It may be that individuals with a more authoritarian style are more likely to join the military or to marry someone who is in the military.

As mentioned previously, military families tend to be more mobile than their civilian counterparts. This, in combination with the fact that this study examined parents of 12–18 year olds, an age range during which children are spending more time with their peers (Larson, Richards, Moneta, Holmbeck, & Duckett, 1996), leads to the possibility that the parenting findings from this study arise from a conflict inherent in this situation. Military families move, on average, every 2–3 years and therefore have less time in their current location and more moves because of the military lifestyle. It is possible that the more authoritarian parenting style reflects efforts by these parents to focus on establishing a safe environment for their children. Most of the respondents to the survey are living in off-post housing. Since mothers may not be knowledgeable of the areas that they are living in, they may find it necessary to restrict their adolescent's behavior as a safety mechanism, as speculated by Querido, Warner, and Eyberg (2002).

Results of the study did not reveal any reliable relationships between deployment variables (months deployed, number of months deployed, or percentage of time deployed) and the parenting variables of restrictiveness or nurturance. It is possible that the predicted associations do not exist or that they are not apparent except during or shortly after the actual deployment. However, it is also possible that after more than 10 years at war, these military families have adjusted their parenting strategies in ways that are unrelated to the deployments. The absence of significant correlations between the parenting variables and military mother's reports of depression, anxiety, stress, and relationship satisfaction suggest that this might be the case, particularly as these relations were found among the civilian mother's reports. Anecdotally, many military parents describe working to protect their children from the stress associated with deployments. Although the present study did not examine this, it seems possible that military mothers work to prevent their own feelings of stress, anxiety or depression associated with deployments from impacting their parenting. Strikingly, studies have shown a correlation between the emotional distress of the non-deploying parent and the emotional distress of adolescents (Chandra et al., 2011) and children (Lester et al., 2010). This suggests that even if mothers are able to manage to keep their distress from impacting their parenting style, it may still have a significant effect on their children.

The absence of significant correlations between the deployment variables and measures of anxiety, depression, and marital satisfaction among the military mothers was unexpected. Previous research has shown a relationship between deployment and depression and anxiety among the non-deploying spouse (Lester et al., 2010; Mansfield et al., 2010; Warner et al., 2009).

Although it may seem surprising that more deployment (by number, total number of months, or percentage of time) is not related to anxiety or depression, this lack of significant relationship may be an indication that military families are more resilient than some believe. It should also be noted that most of the respondents in the present study were not dealing with an ongoing deployment and there are indications that much of the anxiety and depression experienced by military spouses during the deployment remits once the service member returns (Lester et al., 2010). Indeed, the levels of anxiety and depression reported in the present study are quite low and the reported level of marital satisfaction is high. However, it is possible that this reflects a response bias with military-connected mothers working to present themselves in a "favorable light."

As with any survey study, there are factors that limit the extent to which the present findings can form the basis of significant changes or reliably extend to other military families. First, this was a cross sectional study consisting of a convenience sample who responded to an online survey. Although more people are using the internet each year, those who use the internet are more likely to be white and younger (Gosling, Vazire, Srivastava, & John, 2004). Despite the anonymous nature of the survey, it is also possible that individuals, who completed it, may not have been completely forthcoming about negative psychological symptoms when answering the survey questions. Three common traits of members of military family are secrecy, stoicism, and denial (Hall, 2011; Wertsch, 1991). The military culture emphasizes the importance of keeping up appearances, especially stability and the ability to handle any situation as well as keeping feelings and fears to oneself (Hall, 2011).

A number of variables that were not collected as part of this study and decisions made regarding how to handle the available data may also impact on the conclusions that can be drawn. For example, individuals were classified as military or civilian based on reports of their own or their spouse's military service. This effectively combines veterans and military spouses. The decision to classify participants in this manner provided sufficient power for the analyses reported here. However, it also resulted in the merging of two potentially different populations and may account for some of the specific results, or lack of significant results. Also, we did not distinguish between service in the active component of the military and those in the reserves or National Guard. In addition, the study did not examine how long it had been since the family last experienced a deployment. It is possible that changes in anxiety, depression, and marital satisfaction as a well as parenting are related to where the family is in the deployment cycle, or how long the service member has been home. The use of self-selected, convenience samples who were willing to complete online surveys also limits the strength of the conclusions that we may draw.

Ideally, future research should be a longitudinal design with multiple informants to determine parenting styles (parent self-report, adolescent report, behavioral observations). Future research should explore possible differences in parenting style of the deploying parent and stay-behind parent as well as examining parenting throughout the deployment cycle to determine if parenting styles remain constant or

fluctuate through different phases of the deployment cycle. It would also be useful to explore if these parenting changes are related to changes in parents' symptoms of depression, anxiety or marital satisfaction through the deployment cycle.

Assessing the child's response to deployment may also shed light on the question of whether parenting practices matter in the context of such a significant stressor. For a more complete understanding of the role of parenting in helping to mitigate the impact of deployments on children it will be important to look at child/adolescent outcomes such as mental health, academic performance, coping in relation to parenting styles and practices. As discussed, previous research indicate that children raised by authoritative parents perform better academically (Dornbush et al., 1987; Steinberg et al., 1989), have better psychological and social functioning (Lamborn et al., 1991; Maccoby & Martin, 1983), have less depressive symptoms (Radziszewska et al., 1996), and have better coping skills (Dusek & Danko, 1994; Hardy, Power, & Jaedicke, 1993; Wolfradt et al., 2003). However, the present results suggested that military mothers tend to be more restrictive than civilian mothers and that many military mothers use an authoritarian parenting style (high restrictiveness, low nurturance). It is possible that authoritarian parenting, rather than authoritative parenting, is the most effective approach to rearing children in military families, particularly in those families dealing with combat deployments. Examining the potential advantages and disadvantages of different approaches to parenting within the military community will be important to better identify ways of supporting current and future military families.

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# Chapter 8
# Determining the Long-Term Health Outcomes of Servicewomen and Female Veterans: An Australian Perspective

**Susan J. Neuhaus, Samantha Crompvoets, Colonel Stephanie Hodson, and Beverley Raphael**

**Abstract** Australian women have served in overseas military operations since the Boer War (1889–1902) in Southern Africa. ADF gender restrictions have recently been lifted, and from 2016 will allow Australian women to participate in every aspect of future military service, including frontline combat. As the number of women in the ADF continues to increase, the health issues affecting servicewomen and female veterans can also be expected to rise. Similarly, as women's roles change, the profile of service-related injury is also expected to change. Although the Australian servicewomen/female veteran cohort is relatively small in relation to other nations such as the UK and the USA, the research highlights a critical need to adjust the health care delivery and support model for female veterans in Australia and to recognize their vulnerability within existing veteran health paradigms. As more women are included within the contemporary veteran cohort, it is important that health professionals as well as policy makers and senior defense personnel, understand the gender-specific health effects of service on this emerging female veteran cohort. Understanding and meeting their ongoing health care needs must remain a national priority.

**Keywords** Servicewomen • Female veterans • Health • Physical health • Mental health • Relationships • Motherhood

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## 8.1 Overview: Changing Roles for Australian Military Women

Australian women have served in overseas military operations since the Boer War (1889–1902) in Southern Africa. Over the last two decades an increasing number of women have deployed, often repeatedly, as part of Australian Defence Force (ADF) operations. Among this group (which includes Reservists) are Peacekeepers, and veterans of conflict in Iraq and Afghanistan. Women have provided support to disaster and humanitarian relief, peacekeeping missions and regional stability operations, and border protection operations and operations in Iraq and Afghanistan.

Furthermore, the roles and tasks undertaken by Australian servicewomen have become more diverse in recent years. ADF servicewomen now serve as helicopter pilots, surgeons, logisticians and explosive ordinance experts. In recent ADF operations, women participated in combat-related activities that include accompanying combat patrols. ADF gender restrictions have recently been lifted, and from 2016 will allow Australian women to participate in every aspect of future military service, including frontline combat (Australian Human Rights Commission, 2012).

The mental and physical health consequences of operational service and conflict on military men have received considerable attention. However, the gender-specific impacts of service are less understood. Although deployed Australian servicewomen casualty rates since the Vietnam War have been low (three deaths since 1993), Australian women have sustained serious combat-related injuries as well as other injuries during recent ADF operations. Despite the increasing roles of women in the ADF and an expected increase in military-related injuries sustained, the long-term health outcomes for ADF servicewomen have received limited research.

As the number of women in the ADF continues to increase, the health issues affecting servicewomen and female veterans can also be expected to rise. Similarly, as women's roles change, the profile of service-related injury is also expected to change (Yano et al., 2006). Expanded roles for women bring new physical demands, such as those that come with wearing heavy body armor on active patrols and potentially new mental health issues (Epstein, Yanovich, Moran, & Heled, 2013; Haskell et al., 2010). To date, our understanding these issues, their correlates, and outcomes has been heavily dependent on research from USA military populations (Epstein et al., 2013; Haskell et al., 2010). As the ADF moves towards new gender-neutral physical employment standards, the importance of gender-specific and nation-specific analysis will be critical to maintaining a strong national defense.

This paper will address the historical framework of female service in the ADF, current knowledge about gender-specific health effects and the challenges that face future Australian health investigators and policy makers.

## 8.2 Historical Perspective

### *8.2.1 World War I and World War II*

Australian women first deployed in uniform in support of national military objectives in the Boer War (1899–1902). These women served exclusively as nurses; there is no information relating to their health outcomes.

During World War I, Australia deployed over 2,000 uniformed women in support of the Australian Imperial Force (AIF), mostly as members of the Australian Army Nursing Service (AANS). An unknown number of Australian women also served overseas during World War I, either with Allied forces, or with voluntary hospitals as ambulance drivers, orderlies or in other roles. A small number of Australian women became prisoners of war in Europe. Again, the injury and illness rates amongst this group of women are largely unknown.

During World War II, the ADF expanded its roles for women and formed distinct women's services in the Army, Navy, and Air Force. Although a small number of ancillary personnel were deployed during the later part of World War II in more general support roles to Rabaul (New Guinea) and to Japan with the British Commonwealth Occupation Force (BCOF), deployment opportunities remained restricted predominantly to nurses, physiotherapists and medical orderlies.

During World War II over 60,000 women enlisted for service. Approximately 4000 served overseas; in Europe, Egypt, and Southeast Asia, predominantly as nurses and physiotherapists. Over 130 Australian servicewomen died either overseas or in Australia. The most significant loss of life occurred in February, 1942, following the fall of Singapore when 65 Army nurses were attempting to return to Australia on the ship SS *Vyner Brooke*; 12 were drowned when their vessel was torpedoed and 21 were massacred after reaching Banka Island.

Although there is little published data on the collective health outcomes of Australian women who served in World War II, some information that is available is on a specific cohort of female prisoners of war (POWs). Nearly 22,000 Australian servicemen were captured by the Japanese, and were incarcerated as prisoners of war during the Pacific Campaign. Over one third of these men died in captivity. Thirty-two nurses from the 8th Australian Division were also incarcerated in Japanese Prisoner of War camps along with Australian and Dutch civilian women. Of the nurses, only 24 survived the war to return to Australia.

As with the other prisoner of war camps, living conditions for the women were extremely harsh. Diseases such as tuberculosis, dysentery and malnutrition that plagued men, also affected the women. Women were subjected to beatings and torture and threats of sexual violence. Although not made to undertake hard labor as male POWs were, they were subject to the same deprivations and humiliations at the hands of the Japanese. Eight Australian women died in POW camps. The surviving POWs carried the emotional and physical scars of their internment for life.

**Table 8.1** Number of female veterans by Vietnam service [modified from Crompvoets, 2012]

| Service | Group | Number |
|---|---|---|
| Army | Female health professionals | 47 |
| Air Force | Nurses stationed outside Vietnam but whose duties took them into Vietnam | 106 |
| Philanthropic | Australian Red Cross | 21 |
| | Australian Forces Overseas Fund | 2 |
| Civilian | SEATO aid program—(medical/surgical teams) | 172 |
| | Official entertainers | 136 |
| | | Total 484 |

### *8.2.2 Vietnam Conflict (1962–1975)*

The Vietnam conflict (1962–1975) was Australia's most significant military commitment overseas since World War II, resulting in the deployment of over 60,000 personnel. In total, 59,036 males and 484 females served in this conflict.

A breakdown of the female veterans is in Table 8.1. A significant number of the female veterans included in this cohort are civilians, predominantly members of the South East Asian Treaty Organisation (SEATO) health teams, or entertainers who spent only a short duration of time in Vietnam. Although some research has documented the experiences of US women who served in the Vietnam conflict (Wolfe, Schnurr, Brown, & Furey, 1994) there is limited data relating to health issues confronted by Australian women returning from Vietnam. Many SEATO nurses sent to Vietnam as part of Australia's strategic and military commitment to the Vietnam conflict (1964–1972) experienced war related illnesses and medical conditions and there is anecdotal evidence that PTSD rates are high in this group.

In 1998, Department of Veterans Affairs (DVA) data was published on the health outcomes of the Australian Vietnam Veteran Female Cohort (Commonwealth Department of Veterans' Affairs, 1998). Although a landmark study, less than 60 % of the female service members (i.e., 278 of 484) could be located. This underrepresentation appears to be the result of difficulty locating married women whose names had changed since service in Vietnam and makes definitive conclusions difficult.

In this study, female Vietnam veterans were asked to assess their health status by self-reported questionnaires: 12 % reported their health as excellent, 27 % as very good, 37 % as good, 19 % as fair, and 5 % as poor. Although this data suggests that the majority of female veteran respondents (greater than 20 years post deployment), perceived that their health was good or very good, community comparison indicated that the female veterans were *less* likely than other Australian women of the same age to classify their overall health as excellent or very good, and *more* likely to report their health as being good or fair. Interestingly however, the view of their health was more positive than that of *male* veterans. Female veterans were twice as likely as male veterans to report their health as excellent or very good, and three times less likely to report their health as poor (Commonwealth Department of Veterans' Affairs, 1998).

However, notwithstanding the limitations of the study, there was a statistically significant increase in a number of conditions including:

- Asthma, eczema, and dermatitis;
- Depression, panic attacks;
- Live births with labor complications, stillbirths, molar pregnancy; and
- Overall total of cancers, including breast cancer.

Of particular importance are the self-reported fertility and pregnancy difficulties in this group. Seventeen percent (17 %) of female veterans reported trying for more than 12 months without success to conceive a child. Twenty-six percent (26 %) reported a miscarriage, 9 % a termination, 3 % a stillborn child stillborn, 1 % an ectopic pregnancy, and 41 % a birth with labor complications. Although reliable estimates of infertility, miscarriage and stillbirth rates are difficult to obtain from Australian community data, this highlights the need for further investigation.

Further, this data supports the hypothesis that there may be gender-specific consequences to military service and deployment. As a consequence, the Commonwealth Government established a *Vietnam Veterans and Civilian Health Register* to enable further longitudinal analysis of long-term health outcomes. The Female Vietnam Veterans Health Register, commissioned as part of the Government's response to the Vietnam Veterans Health Study in 2000, lists all Australian women who participated in the Vietnam War.

## 8.3 Contemporary Servicewomen, Female Veterans and Families

### *8.3.1 Peacekeeping and Humanitarian Aid Operations (1992–Present)*

Following the Vietnam conflict, Australian servicewomen have been involved in range of Peacekeeping and Peace Enforcement operations. These include United Nations operations in Cambodia, Rwanda and Western Sahara, security operations in Somalia, regional peacekeeping operations in Bougainville and the Solomon Islands and the Australian-led intervention force in Timor Leste. In addition, Australian servicewomen have been involved in ADF humanitarian and disaster response efforts, including the response to the 2002 Bali bombings, 2006 Pakistan earthquake and the 2006 Sumatra tsunami.

### *8.3.2 Afghanistan and Iraq (2001–Current)*

In recent decades the ADF has participated in US coalition operations with its North Atlantic Treaty Organization (NATO) partners in Iraq and Afghanistan: collectively referred to as the Middle East Area of Operations (MEAO). Australia's military

contribution to the international campaign against terrorism, under the banner "Operation Slipper" has predominantly involved land operations in Afghanistan, maritime security in the Middle East Area of Operations and countering piracy in the Gulf of Aden.

In an attempt to redress some of the previous gaps in knowledge, a suite of prospective health studies have been undertaken. Known as the MEAO Health Studies, they form an important contemporary data set within the broader MILHOP research program and comprise the:

- *ADF Mental Health Prevalence and Wellbeing Study*: the first comprehensive investigation of the mental health of the serving ADF population.
- *MEAO Census Study*: a retrospective, self-report survey of around 27,000 ADF members who deployed to the MEAO between 2001 and 2009.
- *MEAO Prospective Study*: a follow-up study collecting pre- and post-deployment data on 3000 members who deployed in 2010/11. Selected members also participated in physical and neurocognitive testing.
- *MEAO Mortality and Cancer Incidence Study*: Death and cancer incidence data from the Australian Institute of Health and Welfare (AIHW) were linked with the MEAO nominal roll and compared with rates of death and cancer rates for the general Australian population.

Although data from some of these studies is not yet available, it is expected that they collectively will inform our national understanding of health outcomes among contemporary Australian veteran groups. The Census and Prospective reports released in August 2013, indicated some changes between pre- and post-deployment for the health outcomes considered, but the majority of individuals were psychologically, physically and socially healthy before and after deployment (Dobson et al., 2013). The results showed that the general health of men and women was similar.

The MEAO Health Studies represent a landmark study with a high response rate for women and the first time that data has been collected during an ongoing conflict. Women comprised 11 % of the study population and 12.3 % of respondents but separate analysis of the data to determine gender-specific health effects is needed.

## 8.4 Defining the Australian Female Veteran Population

Defining the veteran population, and particularly the female veteran population, in Australia is challenging. Generically, the female veteran population includes all Australian women, who have deployed as part of ADF operations overseas, including women still in uniform and those that have left the service. However, defining this population is difficult due to issues of perceived veteran identity (by the veteran and by others) and by legislative definitions and entitlements.

In Australia, perceptions of veteran identity are largely defined by entitlement. Following World War I, the Repatriation Commission was established to provide

pensions and other benefits to veterans. Current legislative arrangements have retained an entitlements based approach to veteran health care defined by the Veterans' Entitlements Act 1986 (VEA), divided into compensation, income support, rehabilitation and health care. This approach has shaped public perceptions of veteran identity in such a way that there is a perceptual bias that a veteran is in receipt of health or pension benefits. Young, healthy ex-serving men and women, regardless of their operational experience are therefore less likely to identify or be identified as veterans.

Eligibility for treatment entitlement cards, under DVA arrangements is complex. If claims are accepted, entitled personnel receive either a "gold" card, which covers treatment costs for all medical conditions, a "white" card, which covers treatment costs for specified conditions only, or an "orange" card, which covers pharmaceutical benefits only. Further, in an Australian setting, veteran health policy is based on DVA statistics representing those who have approached DVA with accepted claims, not the wider veteran community nor those with claims being processed. Consequently there is potential for these numbers to markedly underestimate the health care needs within the wider veteran cohort.

Recent DVA statistics indicate that a total of 8,090 female veterans hold white/gold cards, compared with 131, 826 male veterans (Australian Government Department of Veterans' Affairs, 2012). By contrast, in 2012, female dependents (not veterans) receiving gold cards totaled 91,065. This group includes war widows and dependent female partners and children. Because statistics of female veterans and war widows are often conflated as one treatment population in DVA data, it is difficult to ascertain exact statistics on the female veteran population. What is known is that the number of females in the treatment population is projected to decrease along with the larger veteran population (Australian Government Department of Veterans' Affairs, 2012). This decrease is due to deaths of older cardholders (e.g., World War II female veterans and dependents) over the next 10 years outweighing the increase in numbers of contemporary female cardholders.

Thus, obtaining accurate data on the true dependency of female veterans in the Australian setting is difficult. The number of contemporary female veterans can be approximated by looking at the number who have received the Australian Active Service Medal (AASM), introduced in 1988 to recognize service in prescribed warlike operations since February 14, 1975, or the Australian Service Medal (ASM), which may be awarded for service in, or in connection with a prescribed non-warlike operation. Since 2006, 1,217 women have been awarded the AASM and 993 women have been awarded the ASM (Crompvoets, 2012), indicating that more women have deployed to war-like than non-war-like operations during this time. In 2011, women comprised 10.2 % ($n = 1033$) of the total personnel deployed across three major ADF operational areas. Figure 8.1 indicates the contribution women have made on these deployments since 2002.

Operation Slipper is Australia's military contribution to the international campaign against terrorism, predominantly involving land operations in Afghanistan, maritime security in the Middle East Area of Operations and countering piracy in

**Fig. 8.1** Percentage of women on Operations Slipper, Astute, and Anode 2002–2011 [reproduced with permission Crompvoets, 2012]

the Gulf of Aden. Operation Astute was an Australian-led international military deployment to quell unrest and return stability post the 2006 East Timor crisis. Operation Anode refers to the ADF contribution to the Australian-led stability operation, Regional Assistance Mission to Solomon Islands (RAMSI). The military component of RAMSI comprised personnel from Australia, New Zealand, Papua New Guinea, and Tonga.

More broadly, female veterans are also not included as a subgroup in the national women's health agenda and are not represented in either the 1989 or 2010 National Women's Health Policies. Consequently female veterans remain a largely invisible subgroup of Australian women who are likely to be under represented in key data sets used to shape national health care policy.

### *8.4.1 Women in the Current Australian Defence Force*

As with in many Western defense forces, the percentage of women serving in the ADF is continuing to increase. In 1989–1990 women made up 11.4 % of the ADF personnel. In 2008–2009 women occupied 13.5 % of ADF positions. During the same period the proportion of civilian positions filled by women in the Australian Defence Organisation (ADO) increased from 30.8 to 42.8 % (Raspal, 2011). These figures compare to women accounting for 14.6 % of the US military and 9.1 % of the British Armed Forces.

Figures from late 2011 indicate that women make up 13.8 % of the permanent full time ADF: 18.6 % Navy, 10.1 % Army, and 17 % Air Force (Australian Defence

**Table 8.2** Occupations of ADF women by service and percentage (2012) [reproduced with permission Crompvoets, 2012]

| Occupation categories with highest *number* of women | | |
|---|---|---|
| Army | Navy | RAAF |
| Ordnance corps $n=847$ | Supply $n=552$ | Clerical 2 = 478 |
| Transport corps $n=395$ | Seaman $n=394$ | Supply $n=341$ |
| Medical corps $n=325$ | Communications $n=346$ | Support ops $n=224$ |
| Occupation categories with highest *percentage* of women | | |
| Army | Navy | RAAF |
| Dental corps 65.35 % | Admin 100 % | Dental 90.48 % |
| Nursing corps 62.26 % | Management exec 60.61 % | Clerical 70.5 % |
| Psychology corps 50.81 % | Health services NS 56.73 % | Medical 63.08 % |

Force, 2011). Women hold 8.6 % of the Colonel or equivalent and above ranks in the ADF. Women typically are most represented in health and administrative occupations (Table 8.2), although this is changing, and is likely to change further as restrictions on women's participation in combat roles are lifted.

In September 2011 the Australian Minister for Defence, Stephen Smith, announced that Cabinet had decided to remove all restrictions on women serving in combat positions, and that this change would come into effect within 5 years. This decision was supported by the Chief of the Defence Force (CDF) and the service chiefs. Women became able to apply for all positions, other than Special Forces roles, in the Army on January 1, 2013; it is planned that this remaining restriction will be removed in 2014 once the physical standards required for service in these units are determined. Women will be directly recruited into all frontline combat positions beginning in late 2016 (Department of Defence, 2013).

The changing nature of women within the active service and emerging veteran cohort poses particular challenges. As the ADF continues to expand the roles and opportunities for women in the future, this is likely to impact on the representative numbers and profile of future female veterans. In order to provide "best practice" care for this emerging group, it is important to analyze gender-specific health needs and identify any barriers to care that prevent these needs been identified or met.

## 8.5 What are the Emerging Health Issues for Australia's Female Veterans?

Extrapolation from international literature suggests that there are three main areas that require further investigation in terms of gender specific health risk to female veterans (Neuhaus & Crompvoets, 2013). These are:

1. Physical performance standards and training;
2. Sexual and reproductive health; and
3. Mental health, well-being, and maternal relationships.

### 8.5.1 Physical Standards and Training

Physical consequences of military training are well documented. Parallels can be drawn from physiology literature describing the health impacts of for example, elite training and parachuting. The physiological, biomechanical, and health impacts of soldiery impact differently however on female and male bodies and conditioning and training requirements therefore differ. Female soldiers are at risk of developing osteoporosis, amenorrhea, and stress fractures (Epstein et al., 2013). Military load carriage requirements are significant (ranging between 90 and 130 lb in Afghanistan for example). Such loads can result in increased rates of musculoskeletal injury and pelvic floor instability in women, and contribute to long-term incontinence. Postpartum women are particularly at risk of developing pelvic floor instability. The risk of musculoskeletal injuries, particularly pelvic injuries, also increases when attempting to match male stride length and frequency and can be exacerbated by inadequately fitted equipment such as body armor (Orr, Johnston, Coyle, & Pope, 2011). Musculoskeletal injuries are currently the third most common category of accepted claims by DVA, although there is no published data demonstrating gender differences in frequency or site of injury.

In parallel with the ADF expanding roles for women, there has been a move away from gender-specific physical performance standards to gender-neutral "fitness for task" assessments. Little has been documented about the gender-specific effects of current Australian military training systems. However, as new training regimes are introduced and roles expanded, it will be vital to monitor the effects on performance, injury rates and long-term sequelae. This documentation is particularly critical for the area of injury prevention and for developing appropriate evidence-based "return to work" policies after childbirth. As the ADF seeks to improve female retention rates, and the current female cohort ages, it is likely that the percentage of pregnant or postpartum women serving in the ADF will increase.

### 8.5.2 Sexual and Reproductive Health

Military specific sexual and reproductive health issues include contraception, and management of menstruation or menopausal symptoms in a deployed environment. There is currently limited Australian literature regarding the fertility consequences of operational service (Yano et al., 2006). In particular the impacts of operational service on fertility and its correlates (smoking rates and obesity) and potential effects of the deployed environment, such as exposure to toxic substances, are poorly documented or understood.

Current data suggests that 21 % of women separate from the ADF immediately or within a year of taking maternity leave. This means that information about delayed health effects or obstetric outcomes can only be obtained by prospective linkage of health information between Defence/DVA and civilian health systems. However, within Australia there are significant limitations to prospective tracking and verification of fertility/reproductive outcomes, particularly after leaving service. These challenges include difficulty linking national health data events, privacy issues and use of nongovernment funded fertility services.

In addition, information gained from Crompvoet's study (discussed below), suggests that there are significant barriers to accessing care among the female veteran cohort and this particularly affects willingness to seek gynecological/maternity/sexual health advice (Crompvoets, 2012). Consequently any effects of service on sexual and reproductive health are likely to be significantly underreported or not recognized, particularly as most will be treated within civilian, rather than military or veteran health care systems.

Perceived reproductive issues relative to deployment status in a group of contemporary veterans from Crompvoet's study are detailed in Table 8.3. Despite the potential bias in this study and the inherent bias of self-report data, it is particularly important to note the age-related effect of perceived reproductive issues. This issue has implications for an expanding female veteran population and underscores the importance of tracking long term reproductive and fertility data in current veteran cohorts. Equally, undiagnosed or belatedly treated reproductive health issues, may impact on longer-term mental health outcomes.

### *8.5.3 Mental Health, Well-being, and Maternal Relationships*

International research has shown that the newest generation of female veterans may face not only new occupational challenges, but there is now growing interest in understanding emerging threats to their mental health (Ferrier-Auerbach Erbes, Polusny, Rath, & Sponheim, 2010). Components of well-being in international studies include a focus on: ability to cope, access to services and support, satisfaction with parenting, the effects of sexual harassment, and symptoms of PTSD. A review of the literature on the health and well-being of female veterans indicates the overall lack of research into recent Australian female veterans and underscores the importance of further detailed analysis of MILHOP data sets.

Reportedly US servicewomen may be at increased risk of mental health problems in comparison to their male counterparts (Pierce, Lewandowski-Romps, & Silverschanz, 2011). In addition to the physical health risks that may be specific to female gender, there is a consistent view among international researchers that women in general are up to four times more likely to develop a mental health disorder postdeployment. Also, because of their additional family responsibilities servicewomen with children may be particularly vulnerable to the stresses of deployment. This assertion is supported by US data reporting (Lande, Marin, Chang, & Lande, 2007) increased rates of:

**Table 8.3** Overview of common health issues attributable to service by age group and deployment [modified from Crompvoets, 2012]

| Age group | Mental health | Physical health | Reproductive health |
|---|---|---|---|
| 20–39 | Agoraphobia | Anorexia | Nil |
| Peacekeeping | Depression/PTSD | Back injury | |
| Middle East | Attempted suicide | Chronic fatigue syndrome/fibromyalgia | |
| | Sexual trauma | Irritable bowel syndrome | |
| | Trauma from bullying | Hip/knee problems Arthropathies | |
| 40–59 | Anxiety | Back injury | Endometriosis |
| Africa | Depression/PTSD | Knee problems | Infertility |
| Middle East | Sexual trauma | Gastrointestinal disorders | Multiple miscarriages |
| Peacekeeping | Alcoholism | Dermatitis | Birth defects |
| | | Hearing loss | |
| | | Malignancies | |
| 60–70+ | Anxiety | Arthropathies | Birth defects |
| Vietnam | Depression/PTSD | Back injury | Endometriosis |
| | Alcoholism | Knee problems | Hysterectomy at early age |
| | | Gastrointestinal disorders | Infertility |
| | | Malignancies | Multiple miscarriages |
| | | Hearing loss | |
| | | Glaucoma | |

- Binge drinking among women veterans;
- PTSD compared to male veterans; and
- Female veteran homelessness, particularly amongst single mothers (Kelley, Doane, & Pearson, 2011).

The recently released *ADF Mental Health Prevalence and Wellbeing Study* measured the prevalence of 12-month mental health disorder and psychological distress in a representative sample of currently serving ADF personnel (Hodson et al., 2011). The results indicate that serving women have a higher rate of depression and anxiety, and a lower rate of alcohol use disorder, compared to men. This pattern of gender difference in the prevalence of mental health problems is consistent with findings from population-based studies from other Western military as well as the general Australian community (Wade, Fletcher, Howard, & Forbes, 2013). Female service personnel repeatedly exposed to traumatic experiences, whether at home or on deployment, are more likely to develop mental health concerns (Christiansen & Elklit, 2008).

An additional analysis from the data was conducted for a sample of ADF personnel who had deployed to multiple operational theaters, other than the Middle East but including East Timor. This analysis indicated that the most significant barrier to ADF personnel seeking help for a stress, emotional or mental health problem was concern that help seeking would reduce their opportunity to deploy. A total of 36.9 % of ADF personnel (36.0 % of females and 37.0 % of males) identified this as a concern. The highest rated perceived stigma was fear that seeking help would result in people treating them differently. This reason was followed closely by concerns that help seeking would harm their career or career prospects, impact on deployment opportunity, and fear that they would be seen as "weak" (Hodson et al., 2011).

Awareness of where to seek help was widespread, and most people indicated that they thought they could get time off work to seek help. Only 6.3 % of ADF personnel reported not knowing where to get help as a barrier to seeking help, and only 14.7 % reported that they would have difficulty getting time off work. The only significant difference for men and women in relation to stigma and barriers to care was that females were 21 % more likely than males to know where to get help. Of note is the similar proportion of women and men reporting that they would be concerned with being seen as "weak" if there sought assistance. The findings in this section suggest that military expectations regarding resilience and strength are internalized by females as well as males, and that both equally fear being seen as weak.

Willingness to seek assistance for mental health or associated concerns is reflected in Australian service usage data. Between 2008 and 2011, 1440 female veterans sought services from the Veteran's and Veteran's Families Counseling Service (VVCS) formerly known as the Vietnam Veterans Counseling Service. VVCS accepts open self-referral from serving and ex-serving personnel and dependents. Of significance is that during this period, the number of women presenting annually to VVCS has doubled, from 244 in 2008 to 492 in 2011, representing approximately 15 % of the veteran clients.

It is also important to note that the average age of female veterans is 40 years. This matches the general trend towards a younger veteran population seeking assistance through VVCS, and also reflects the younger age of the female veteran cohort as a group.

The major presenting problems were:

- Relationship problems (25 %)
- Depression (22 %)
- Anxiety (16 %)
- Health and wellness (14 %)
- Family relationship issues (12 %)
- Military discharge (8.5 %)

Additionally, there has been an increase in the percentage and number of female veterans expressing a desire for group programs tailored to women rather than participating in male dominated groups. Regrettably, although gender-neutral programs

are available, logistic issues and low overall numbers are a barrier to establishing "women only" services.

Care must be taken when extrapolating either international data to national subsets or overall data to emerging sub-cohorts. A case in point relates to the emerging subcohort of deployed servicewomen with dependent children.

A preliminary study, the *Mothers in the Middle East Area of Operations* (*MEAO*) *study* (Davy et al., 2015), undertook a comparative analysis of 196 servicewomen with dependent children at the time of deployment to the MEAO and 579 servicewomen without dependent children to determine the health impacts of maternal deployment. Results of standardized measures revealed that mothers deployed with the ADF to the MEAO were at *no* greater risk of psychological distress, posttraumatic symptoms, alcohol misuse or somatic illness after deployment, as compared to deployed women without dependent children. However, this study was based on self-report data and may reflect a selected subgroup. An expanded study is currently underway, to investigate mother-child attachment, plans to stay in the service, child behavior, before and after deployment, but these preliminary findings underscore the need for Australian specific data, and for rigorous study design when comparing subgroups.

The impact of maternal deployment extends beyond the mother-child relationship and affects all members of the family unit (see McFarlane, 2009, for a review). Analysis of nation-specific data is particularly relevant in the area of maternal-child relationships and the effects of service on families, as policy, infrastructure, social demographics and support mechanisms may vary significantly between nations. Therefore, extrapolation of findings from foreign military services may not reflect the variance effects of national policy and service delivery frameworks. Clearly, not only understanding gender-specific factors associated with deployment, but identifying nation- and gender-specific factors that may mitigate or support the well-being of servicemembers who deploy are areas for future research.

The *Timor Leste Family Study* (McGuire et al., 2012) was undertaken to investigate the impact of deployment to Timor Leste (2006–2013) on ADF families, in particular partners and children. Timor Leste was an ADF led multinational military and United Nations stability and peacekeeping operation. More than 4000 Defence personnel and their partners participated in this research study including current and former, regular and reserve ADF families. Non-deployed partners were more likely to respond that military commitments negatively affected their children if there had been three or more operational deployments. Of note, the most frequently cited difficult aspects of Timor Leste deployment were associated with the absence of the deployed member—for example, missing them, worrying about their safety, and not having them present on special occasions.

Most studies, including this one, however have not addressed the impact on families in a gender-specific fashion. As a result, policies that inform family support services are predominantly based on the prevailing paradigm of a family in which the father is deployed and the wife remains with the children. A question still to be answered is whether the support needs of non-deployed fathers differ from those of non-deployed mothers.

For this reason a further preliminary analysis of pre-deployment data collected for the Middle East Area of Operations (MEAO) Prospective Study was undertaken to identify:

- impact of military careers on children from a deploying ADF members perspective; and
- any perceived association between either the number of deployments, or collective time away on previous deployments.

The resulting study, *The Perceived Impact of Military Life on Children* (Davy et al., 2012) was based on a weighted sample of 3,080 predeployment MEAO Prospective Study self-report questionnaires. Whilst 45.2 % of participants with children perceived that their military career had "no impact" or a "positive impact" on their children, 54.8 % of participants with children perceived that their military career had a "negative impact" on their children. Significantly, the odds of perceiving a negative impact on children was 1.92 times greater for participants who had previously deployed, compared to those who had no previous deployments, and increased with the number ($p=0.02$) and duration (0.05) of deployment.

However, it is important to note that the data were collected at pre-deployment and may reflect concerns about the impact of impending deployment. In addition, data were collected from the deploying partner and may not reflect the opinions of other family members, including children. Further, and pivotally, no stratification or separate analysis for gender specific perceptions has been undertaken.

## 8.6 Health Services Equity for Servicewomen and Female Veterans

Meeting the health needs of the current and future generations of Australia's veterans will continue to provide health planning and implementation challenges. The health needs of contemporary veterans are different from veterans of past conflicts. Interactions between contemporary veterans and health-service providers are also shaped by changing technologies, service delivery options and models of care. It is imperative that, as new and innovative care systems are developed, all veterans can access high quality, timely, and appropriate care. In addition, these services need to be tailored to the needs of specific subgroups, such as younger veterans and those geographically isolated from major defense or health facilities.

Veterans and ex-serving personnel in Australia currently access a complex set of health services. These include Commonwealth funded services such as those provided by DVA, Medicare (Australia's publically funded universal health care system) and State and Territory health systems as well as the services of private providers and a range of non-government organizations. There is a clear need for integration of care, to ensure equity and access for all members of the veteran community and ensure that subgroups are not excluded. Efforts are in place to provide greater linkage between ADF and DVA health datasets and minimize the risks of

"falling between the gaps." Current privacy issues preclude formal linkage of all health datasets. However subpopulations who may not identify, or be identified, as part of the veteran cohort and may be otherwise at risk, may be vulnerable to exclusion from veteran specific health services. Women may be overrepresented in this so-called "missing cohort."

Failure to track such issues or appreciate linkages to service has significant implications. For the individual, access to benefits, or to specialized veteran mental health programs is relevant. From a community perspective, failure to recognize the service-related effects dilutes the appreciation of the impact of ADF service on its constituents. This underscores the importance of employment history. In the USA, the Veterans Affairs Department has spent considerable effort redesigning health services to be gender friendly and accessible. The redesign includes links to women's health sites and resource investment to ensure equity of access. In Australia, DVA and Defence have jointly established the ADF Service Women Steering Committee, providing an opportunity for younger serving and former servicewomen to meet and determine what general and specific services should be tailored to females.

### *8.6.1 Barriers to Care: Female Veteran Identity*

One of few Australian studies to health issues that confront contemporary Australian female veterans was conducted by Crompvoets (2012). In her in-depth 3-year study, into the health and well-being of Australian female veterans she identified significant barriers to accessing existing support services and gaps in knowledge that impact on health and well-being. These included perceptions of a lack of:

- An authentic veteran identity;
- Trust or confidence in current services provided to servicewomen/female veterans; and
- Understanding in relation to gender-specific issues such as maternal separation and parenting, reproductive health, and military sexual trauma/harassment.

Data were collected through face-to-face interviews with 60 female veterans who had deployed from the Vietnam era onwards, including Vietnam, Rwanda, the Gulf War, Cambodia, Timor Leste, Bougainville, Solomon Islands, Iraq, and Afghanistan. The sample was heterogeneous comprising women from Army, Air Force and Navy, soldier and officer categories, with a range of ages, ranks and lengths of service. A third of women in the study had deployed more than once, some up to four times. Women represented a range of occupational categories, including health, administration, communications, transport, logistics, signals, engineering, and intelligence. Crompvoets (2012) found that the overwhelmingly majority of women highly valued their ADF careers. In particular, they enjoyed the opportunities afforded them and the close-knit team environment. However, mental, physical, reproductive health and well-being issues that emerged as a result of

women's operational deployment manifested in various ways, and opportunities to address them with timely and appropriate support and services were often limited.

Female veterans in the Crompvoets (2012) study also reported many ambiguities in relation to their gendered self-image; as mothers, partners, caregivers, or in their professional identity. Further ambiguity existed in relation to women's veteran identity. Veteran status is something they should embrace: but in contrast many distanced themselves from this epithet. The implications of this are more than symbolic. Rather they manifested as barriers to accessing existing support services aimed at "veterans." Such ambiguity has potential to be compounded when women do try to access services, only to find that they are limited, developed for a largely male clientele and incompatible with demands such as childcare responsibilities. Seeking support and care from a more general civilian health care provider may also constitute an inadequate experience as a result of perceived limited understandings by practitioners of the experiences or needs of female veterans.

Significant gaps were also identified in terms of available and appropriate information, resources and policies for female veterans. This included perceptions that there were inadequate:

- Support services developed for, or targeted at, female veterans;
- Available information on female-specific health issues, such as reproductive and gynecological health, domestic violence, gender and sexual identity, and military sexual trauma;
- Synchronization between the timing of information given, and the perceived/actual time of needing this information;
- Understanding from others about issues related to maternal separation and parenting;
- Understanding of trauma exposure experienced by veterans by their civilian and veteran health service providers; and
- Evaluation and best practice guidelines for health care provision for female veterans.

These issues are likely to manifest in a number of number of ways that may impact negatively on access to specialist veteran health care resources or treatment. These include:

- Potential reluctance of female veterans to access DVA/veteran services, including veteran specific counseling services;
- Reluctance to seek or claim formal treatment entitlements;
- Worsening mental and/or physical health due to delayed treatment seeking; and
- Feelings of isolation that lead to negative mental health outcomes.

Furthermore, each of the above issues may drive servicewomen/female veterans to seek care from existing civilian public or privately funded health services, which they may perceive as providing easier access or less stigma. The consequence of any such "shift" in health care provision within this cohort would further dilute reliable gender-specific data.

## 8.7 Conclusions/Recommendations

Although the Australian servicewomen/female veteran cohort is relatively small in relation to other nations such as the UK and the USA, the research highlights a critical need to adjust the health care delivery and support model for female veterans in Australia and to recognize their vulnerability within existing veteran health paradigms. The ADF and DVA are already committed to reducing stigma and redressing barriers to care as one of its priority actions. Work is also underway to create more accessible pathways to care for Australia's servicewomen and female veterans.

The health lessons from this group of servicewomen and female veterans may also have wider community applicability within Australia. For example, as the Australian Police Force, fire services, and emergency services seek to increase female participation rates, they are likely to face similar gender-specific health issues related to training and employment.

A critical appraisal of the health risks specific to servicewomen and female veterans will facilitate:

- Increased awareness of health issues and female veteran experiences;
- Development of targeted support and resources for female veterans;
- Development and implementation of appropriate gender specific education and/or health mitigation strategies;
- Development of "best practice guidelines" for treatment of female veterans.
- Development of a strategic national female veteran health research agenda; and
- Provide greater inclusivity of women within the Australian veteran community.

As Australia approaches the centenary of its military nationhood, formed on the shores of the Gallipoli peninsula during the British Imperial Dardanelles campaign of World War I, it is appropriate as a nation to reflect on the lessons of history and the changing nature of the ADF.

As the veteran community continues to change, and the roles of women expand, new and emerging health issues will be identified. As more women are included within the contemporary veteran cohort, it is important that health professionals as well as policy makers and senior Defence personnel, understand the gender-specific health effects of service on this emerging female veteran cohort. Understanding and meeting their ongoing health care needs must remain a national priority.

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# Chapter 9
# Understanding the Experiences of Women and LGBT Veterans in Department of Veterans Affairs Care

**Kristin Mattocks**

**Abstract** Women have been actively serving in the United States military since the birth of our nation. Since the inception of the wars in Iraq (Operation Iraqi Freedom, OIF) and Afghanistan (Operation Enduring Freedom, OEF), as well as the peacekeeping mission in Iraq (Operation New Dawn, OND), more than 280,000 United States female service members have been deployed overseas (United States Department of Defense Armed Forces. Active duty military strength & other personnel statistics. Retrieved April 24, 2013, from http://www.defense.gov/faq/pis/mil_strength.html). This chapter summarizes recent research regarding the mental health and experience of gender-based violence among recent female veterans, and describes Veterans Administration programs aimed at supporting the unique needs of women. This chapter also describes VHA policies specifically directed at women and reviews the emerging needs of sexual and gender minority veterans.

**Keywords** Veterans • Women • LGBT • Trauma • War • Pregnancy • Mental health • Utilization

Women have been actively serving in the United States military since the birth of our nation. In the Revolutionary, Civil and Mexican Wars, women disguised themselves as male soldiers in order to fight alongside their male counterparts, and while they were occasionally discovered, many women continued to serve and some even received a military pension for their service. Beginning with World War 1, both the U.S. Navy and Marine Corps allowed women to serve, with approximately 12,000 women serving in WWI and close to 350,000 women serving in WWII. However, while women's roles in the military were largely limited to nursing, their participation in the military was not widely supported. In 1948, the Women's Armed Services

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Integration Act prevented women from commanding men or serving in combat roles, and placed a 2 % cap on the proportion of troops that could be women. This cap remained in place for 20 years, until manpower needs of the Vietnam War drove Congress to lift the 2 % cap on female troops (Murdoch et al., 2006). In 2013, women made additional gains when the Department of Defense lifted its Combat Exclusion Rule, thereby allowing women to serve in direct combat roles for the first time in history (Donegan, 1996; Mulhall, 2009).

Since the inception of the wars in Iraq (Operation Iraqi Freedom, OIF) and Afghanistan (Operation Enduring Freedom, OEF), as well as the peacekeeping mission in Iraq (Operation New Dawn, OND), more than 280,000 United States female service members have been deployed overseas (Department of Defense, 2013). Nearly 200 women have been killed during their OEF/OIF deployments (Department of Defense, 2013), thousands of women have been seriously injured, and an unknown number suffer significant mental health problems as a result of their exposure to combat-related violence, military sexual trauma, and other stressors during their military deployments (Haskell et al., 2011, 2012; Mulhall, 2009). Recent studies suggest that more than 15 % of service members returning from Iraq and 11 % of service members returning from Afghanistan have met the screening criteria for major depression, gene ralized anxiety, or posttraumatic stress disorder (Hoge et al., 2004; Hoge, Terhakopian, Castro, Messer, & Engel, 2007; Seal et al., 2009, 2010).

With the elimination of the Combat Exclusion Rule, the occupational roles available to women serving in the military were greatly expanded. These expanded occupational roles have broadened women's exposure to combat-related violence and the stress of military service. Before the Combat Exclusion Rule was lifted, however, women served in a variety of positions that put them at risk for injury or death. The recent wars in Iraq and Afghanistan have further blurred the line between combat and non-combat roles, as these wars have been characterized by guerilla fighting in urban war zones (Street, Vogt, & Dutra, 2009). For example, serving as a member of the military police (MP) is considered a non-combat occupation, but women serving as MPs provide convoy and unit security, control traffic, and enforce military regulations. These roles may require female soldiers to search for improvised explosive devices (IEDs), which have caused up to 75 % of fatalities in Afghanistan in 2009 (Joint Improvised Explosive Device Defeat Organization). Consequently, though women did not serve in direct combat positions for much of the Iraq and Afghanistan wars, a recent study suggests that approximately three quarters of women deployed to Iraq have been exposed to one or more combat experiences (Dutra et al., 2011), which is on par with studies comprised of primarily OEF/OIF male service members (Milliken, Auchterlonie, & Hoge, 2007).

Actual or perceived danger is only one source of stress faced by female service members. Women serving in the military must also cope with the threat of gender-based violence during deployment (Kimerling et al., 2010; Kimerling, Gima, Smith, Street, & Frayne, 2007; Yaeger, Himmelfarb, Cammack, & Mintz, 2006). "Gender-based violence" is a term introduced in 1993 as the United Nations adopted the Declaration of Violence Against Women, which describes violence against women as "Any act of gender-based violence that results in, or is likely to result in, physical,

sexual, or psychological harm or suffering to women including threats of such acts, coercion or arbitrary deprivations of liberty, whether occurring in public or private life" (p. 1). Gender-based violence, specifically violence against women, is highly prominent, particularly in the context of war, and may be inflicted upon both civilian and military women alike, though whether there is a differential effect on civilian and military women is unknown.

## 9.1 Women Veterans in the Department of Veterans Affairs (VA)

Women veterans are among the fastest growing groups of new Department of Veterans Affairs (VA) healthcare users (Batuman et al., 2011). VA is the largest integrated healthcare system in the world, with over 8.3 million enrollees receiving care within a network of 1400 hospitals, clinics, and nursing homes across the country (VHA 2013). Considerable data indicate that women veterans seek VA care for numerous conditions related to combat zone deployment, including the prevalence of posttraumatic stress disorder (PTSD), traumatic brain injury (TBI), depression, substance abuse, and other physical and mental health problems. Considerable data indicate that women veterans seek VA care for numerous conditions potentially related to combat and trauma, including pain and mental health conditions (Milliken et al., 2007; Seal et al., 2009).

Women veterans also seek VA care for military sexual trauma (MST). MST is the term used by the Department of Veterans Affairs to refer to sexual assault or repeated, threatening sexual harassment that occurred while the veteran was in the military. Approximately 20 % of all women veterans and 15 % of OEF/OIF women veterans seeking care within the VA system screened positive for MST (Kimerling et al., 2007, 2010). Women veterans who experience MST are more likely to have suffered childhood sexual assault, sexual abuse as adults outside of the military and intimate partner violence compared to those who have not (Kimerling et al., 2010; Luterek, Bittinger, & Simpson, 2011; Mattocks et al., 2013; Sadler, Booth, Cook, & Doebbeling, 2013).

## 9.2 Gender-Specific and Reproductive Health Care among Female Veterans

The recent wars in Iraq and Afghanistan have produced a growing population of female veterans, and the infusion of these women veterans into the VA healthcare system has accelerated the need for comprehensive gender-specific and reproductive healthcare services (Bean-Mayberry et al., 2010; Goldzweig, Balekian, Rolon, Yano, & Shekelle, 2006; Yano, Bean-Mayberry, Rose, Canelo, & Washington, 2009). Shifting trends in the demographics of women VA users show three major

"peaks" in utilization among women veterans at ages 27, 44, and 76 (Frayne et al., 2010). Consequently, the VA healthcare system must be able to accommodate the gender-specific care needs that span the lifetime course, ranging from contraceptive management and prenatal care among younger women to menopause management among middle-aged veterans and breast and reproductive oncology for older women veterans.

## 9.3 Gender-Specific and Reproductive Health Care in the VA

Several different women's health care delivery models exist within the VA healthcare system to provide reproductive health care for women (Yano, Washington, Goldzweig, Caffrey, & Turner, 2003). Many VA facilities have comprehensive women's health clinics (WHCs) that provide primary as well as gender-specific care for women veterans (Yano et al., 2003). The remainder of VA facilities provide care through designated women's health providers in general primary care clinics.

The type of gender-specific care provided within each VA facility varies depending on the women's health delivery model and the complexity of reproductive health services provided within the facility. All VA Healthcare systems offer basic gender-specific services such as cervical cancer screening, menstrual disorder diagnosis, and hormonal contraception treatment and management. Availability of advanced gynecologic services, such as endometrial biopsy, intrauterine device (IUD) insertion, infertility treatment, and general gynecologic surgery varies considerably across VA sites (Seelig, Yano, Bean-Mayberry, Lanto, & Washington, 2008; Washington, Caffrey, Goldzweig, Simon, & Yano, 2003).

Over the past 10 years, there has been a substantial decrease in the onsite availability of most gender-specific health services, including contraceptive management, screening mammograms, treatment for menstrual disorders, and general gynecologic surgery (Yano et al., 2009). When gender-specific care is not available at a VA facility, federal law allows veterans to receive care at outside facilities via contract or fee basis care arrangements (Smith & Chow, 2010). Fee basis care arrangements are those in which community providers are reimbursed by the VA for each individual service rendered to patients. In contrast, contract care is provided by non-VA physicians under a capitated payment system (Liu et al., 2010). Recent evidence suggests that the proportion of gender-specific care provided by fee basis providers has increased substantially over the past 10 years.

Recent evidence suggests that women veterans use both VA and non-VA providers for gynecologic care. In a study of cross-sectional study of Midwest women veterans using VA care, 54 % reported using non-VA providers for gynecologic care, while 80 % used VA providers (Sadler, Mengeling, Syrop, Torner, & Booth, 2011). However, focus group data suggest that women veterans using VA services are unaware of the full extent of VA gender-specific and reproductive health services, especially services related to infertility and prenatal care (Mattocks et al., 2011).

## 9.4 Contraceptive Counseling and Management

A substantial majority (60 %) of the women returning from military service in Iraq and Afghanistan are 45 years old or younger, and many of these women are sexually active and require assistance with contraceptive management (Yano et al., 2009). VA facilities vary widely in their availability of contraceptive options, although a majority of facilities offer on-site hormonal contraception (97 %) as well as intrauterine devices (IUDs; 62 %) (Cope, Yano, Lee, & Washington, 2006; Seelig et al., 2008). Despite the availability of contraceptive options, however, few women veterans appear to be utilizing contraceptive management services through their VA providers. A recent VA administrative analysis suggests that only 22 % of women veterans using the VA healthcare system had a documented method of contraception in the VA (Borrero et al., 2012). Among these women veterans, 14 % were using hormonal methods of birth control, 4 % had documented IUD and implant use, 4 % had documented female sterilization, and less than 1 % had documented condom use. These numbers may not accurately reflect the true prevalence of contraceptive use among women veterans, however, as many women veterans may choose to receive contraception from community-based clinics such as Planned Parenthood.

## 9.5 Prenatal Care, Pregnancy, and Newborn Care

The Veteran's Health Care Eligibility Reform Act of 1996 established a VA maternity benefit program for female veterans, in which female veterans receive prenatal, intrapartum, and postpartum care from fee basis providers in their communities (PL 104-262, 1996). In addition, the Caregivers and Veterans Omnibus Health Services Act of 2010 allows the VA to pay care of newborn children of veterans when the veteran is receiving maternity care furnished by the VA (PL 111-163, 2010).

Despite this legislation, few published studies have examined the pregnancy among women veterans in VA care. Many pregnant veterans struggle with concomitant physical and mental health problems during pregnancy, and may choose to remain in the VA system for provision of care for these conditions. This dual system of care may lead to lack of coordination among care providers, which may present problems for medical management of pregnancy if non-VHA obstetrical providers are unaware of women veterans' mental health problems or medications they may be taking for these problems.

Mattocks and colleagues (2010) utilized VA administrative records to examine pregnancy and co-existing mental health conditions among OEF/OIF veterans. Approximately 7 % of OEF/OIF veterans in VA care had been pregnant, and over 30 % of these pregnant veterans had been diagnosed with at least one mental health condition prior to or during pregnancy. Similarly, a study of 33 women veterans in 2006 revealed that nearly 40 % had been diagnosed with one psychiatric condition, and over one-third had at least one chronic medical condition (Chireau, Salz, Brown, & Bastian, 2006). More recent studies suggest a substantial increase in the

number of deliveries to women veterans using VHA maternity benefits. Between 2008 and 2012, the overall delivery rate increased by 44 % over the study period from 12.4 to 17.8 deliveries per 1000 women veterans (Mattocks et al., 2014). To date, no studies have examined the extent to which community-based prenatal care is coordinated with ongoing VA care, nor have any studies examined maternal and child health outcomes among women veterans with combat and trauma exposure.

## 9.6 Infertility Care

The VA provides infertility services for eligible women veterans, including assessment of reproductive capacity and treatment or correction of some fertility-related problems, such as endometriosis (VHA Handbook, 1330.01). In addition, surgical reversal of tubal ligation is a covered benefit for treatment of infertility. However, in vitro fertilization is not covered benefit in the VA. A recent study of OEF/OIF women veterans found that less than 2 % of OEF/OIF/OND women veterans received an infertility diagnosis during the 10-year study period. Compared to women VA users without infertility diagnosis, those with infertility diagnosis were younger, obese, Black or Hispanic, have a service-connected disability rating, a positive screen for military sexual trauma, and a mental health diagnosis (Mattocks, 2015).

## 9.7 Cervical Dysplasia and HPV Infection

Few studies have examined the prevalence of common gender-specific conditions such as cervical dysplasia or HPV infection among women veterans. A recent literature review of risky behavior and sexually transmitted infections among active duty and veteran women suggests that the burden of these genital tract diseases are greater among women veterans compared to the civilian population (Goyal, Mattocks, Sadler, 2014). A study of women veterans in VA care found that 57 % of women veterans reported having at least one abnormal cervical cytology screen in her lifetime. Further examination of VA medical records suggested that 17 % of women veterans had one or more abnormal Pap tests within the past 5 years. Among those with an abnormal screening test, 48 % were low- or high-grade SIL or carcinoma in situ (Sadler et al., 2011).

## 9.8 Breast and Cervical Cancer Screening and Surgical Care

Preventive screening programs for women veterans include screening for cervical, breast, and colon cancer (VHA Handbook, 1330.01, 2010). Breast and cervical cancer screenings are two of the VA's quality measures. In both 2008 and 2009, 92 %

of women ages 21–64 who were enrolled in VA care had received at least one Pap test in the past 3 years (VHA Office of Quality and Performance Measurement, 2011). A study assessing cervical cancer screening at 144 VA medical centers revealed an average national screening rate of 90 % among women veterans, and demonstrated that screening rates were higher in clinics with a greater proportion of female patients and when quality improvement programs were implemented (Goldszweig, Parkerton, Washington, Lanto, & Yano, 2004).

A majority of screening mammograms are provided through fee or contract arrangements with non-VA mammography facilities, and the VA is currently developing a mammogram tracking system to ensure mammogram results are fed back into the VA electronic medical record (VHA Handbook, 1330.01, 2010). In 2010, 87 % of eligible women veterans in VA care had received appropriate and timely breast cancer screening (VHA Office of Quality and Performance Measurement, 2011). State-of-the-art digital mammography is provided in 32 VA medical centers, and 7 VA medical centers provide breast cancer surgery (Department of Veterans Affairs, 2011). When these services are not provided onsite at a VA facility, they are provided through fee basis or contract arrangements with non-VA providers. One recent VA study examined surgical outcomes among a group of VA patients undergoing surgery for breast cancer (both men and women) at VA facilities and found low morbidity, mortality, and readmission rates among these patients (Hynes et al., 2004).

## 9.9 VHA Policies and Programs to Improve the Care of Women Veterans

Because women veterans have historically underused VA health care, with most of today's women veterans obtaining all or most of their medical care outside the VA (Murdoch et al., 2006), the VA has placed elimination of barriers to VA use for women as a top priority (Carden, 2010). VA research has thus far demonstrated that women veterans have substantial misconceptions about VA care, including gaps in knowledge/awareness of their eligibility for VA care and inaccurate assumptions that the VA provides care only for men and/or does not deliver women's healthcare services (Washington, Kleimann, Michelini, Kleimann, & Canning, 2007; Washington, Yano, Simon, & Sun, 2006). These and other findings suggest the importance of outreach/education targeted to women veterans as well as marketing campaigns.

In an effort to ensure women veterans are receiving comprehensive care, the VA has charged the Office of Women's Health Services (WHS) to oversee the implementation of quality health care for women veterans (Hayes, 2013). One of the goals of WHS is to ensure that all women veterans receive equitable, high-quality and comprehensive health care in a sensitive and safe environment. An additional goal of WHS is to be a national leader in the provision of health care for women. In this, the goal is not just having the care of women being as good as the care of men in the VA is, but rather developing a healthcare system that is a best practice model, demonstrating to the country how to provide good health care to women.

In order to accomplish these goals, it is critical to develop a strong infrastructure of women's health medical directors and program managers at all 153 medical centers in the VA system. Women Veteran Program Managers and field directors work closely with experts in reproductive health, primary care, mental health, education, and research to advocate for and implement improved services for women veterans at the facility level.

## 9.10 Sexual and Gender Minority Veterans (SGM)

Sexual and gender minority (SGM) individuals have long been an integral part of the United States Armed Forces, including the Army, Navy, Coast Guard, Marine Corps, and Air Force. However, because the Department of Defense (DoD) does not collect demographic information on sexual orientation or gender identity, exact figures are unknown. Population estimates suggest that gay and lesbian service members represent 2.5 % of active duty personnel and 2.8 % of all military personnel when Guard and Reserves are included (Gates, 2003–2004). With nearly 1.5 million people currently serving on Active Duty and another 850,000 serving in the seven reserve components (United States Department of Defense Armed Forces, 2013), there may be roughly 66,000 SGM individuals serving in the Armed Forces at any given time.

Though SGM veterans routinely use VHA care, current VHA data collection strategies do not allow for routine identification of these individuals within the system. Demographic information is typically gathered upon entry into the VHA system using Form 10-10EZ, which does not include information about sexual or gender minority status. Thus, it is very difficult to know how many SGM veterans are using VHA and if these numbers are changing over time. At present, estimates of SGM veterans enrolled in VHA are based on population estimates of the proportion of SGM military service members, which may not represent the proportion of SGM veterans who ultimately seek VHA care. However, if even a small portion of SGM service members seek care at VHA following military service, VHA will be the largest single provider of health care for SGM individuals in the United States. Therefore, understanding how SGM veterans receive their health care and how VHA should tailor its programs and policies to meet the needs of these veterans is paramount if VHA is to provide comprehensive, high-quality care to this population.

### *9.10.1 The Legacy of "Don't Ask, Don't Tell" on SGM Veterans*

In 1993, Congress voted to enact and President Clinton signed into law Public Law 103-160, also known as "Don't Ask, Don't Tell" (DADT), prohibiting people who "demonstrate a propensity or intent to engage in homosexual acts" from serving in the U.S. Armed Forces. Self-identifying as gay or lesbian alone was sufficient grounds for discharge. During the 18-year history of DADT, nearly 14,000 service

members were discharged, with disproportionate numbers of women and racial/ethnic minorities impacted over the course of the policy (Gates, 2010). Furthermore, prior to DADT, estimates suggest that an additional 19,000 service members were discharged from the military due to sexual orientation (Burks, 2011). While service members that receive a dishonorable discharge are not allowed to access benefits of military service including VHA health care, evidence suggests a majority of individuals discharged under DADT received honorable discharges and were therefore eligible for care in VHA if they met other VHA eligibility criteria (Burrelli, 2010).

Although DADT was a DoD policy rather than a VHA policy, DADT may have had indirect effects on care within VHA for SGM veterans. VHA providers and patients alike may have been reticent to ask about or disclose information regarding SGM status, which contributed to poor communication, and may have inadvertently led to worse health outcomes. One recent VHA study indicated that only 33 % of SGM veterans reported open communication regarding their sexual orientation with VHA providers, while 25 % reported avoiding certain VHA services because of concerns about stigma (Simpson, Balsam, Cochran, Lehavot, & Gold, 2013). In another study of 202 VHA providers and 58 SGM veterans conducted at two VHA facilities (Sherman, Kauth, Shipherd, & Street, 2014), less than one-third of participants, veterans and providers alike, viewed VHA as welcoming to SGM veterans. Thus, perceptions of the environment where treatment is being delivered might create a barrier to accessing care. In addition, anecdotal evidence suggests that veterans may have been unlikely to disclose their sexual orientation during DADT to their providers because they feared that this information would impact their ability to receive pension or disability benefits. Though the repeal of DADT brought an opportunity for gay, lesbian, and bisexual service members to serve openly without fear of dishonorable discharge, many challenges remain, including that transgender persons still cannot serve openly. Nevertheless, the culture of the Armed Forces is beginning to change toward inclusion and this change will likely affect the VHA healthcare system in turn.

### *9.10.2 Dual Health Disparities Among SGM Veterans*

Understanding the healthcare needs of SGM veterans requires a deeper understanding of the complex health needs of the larger veteran population as well as the unique needs of SGM populations. Several explanatory models suggest multifaceted causal mechanisms contribute to these multiple health disparities. Veteran-related health disparities have been well-documented (Agha, Lofgren, VanRuiswyk, & Layde, 2000; Dominick, Golightly, & Jackson, 2006; Hoerster et al., 2012; Kazis et al., 1998; Koepsell, Forsberg, & Littman, 2009; Koepsell, Reiber, & Simmons, 2002; Peabody & Luck, 1998), as have disparities related to SGM status (National Institutes of Health, 2011; U.S. Department of Health and Human Services, 2011). Veterans who use VHA are more likely to be older, less well educated and not working than veterans who do not use VHA; and even when controlling for these demographics, veterans who use VHA have worse perceived health, use more health care, and have multiple

medical comorbidities. In addition, veterans are at increased risk for posttraumatic stress disorder (PTSD) (Magruder & Yeager, 2009), depressive and anxiety disorders (Hankin, Spiro, Miller, & Kazis, 1999; Liu et al., 2006), and substance abuse (Seal et al., 2011). When looking at the general SGM literature, barriers to accessing care (Institute of Medicine, 2011) and elevated risks for specific health concerns—including higher rates of smoking (Lee, Griffin, & Melvin, 2009), being overweight and obesity (Boehmer, Bowen, & Bauer, 2007), exposure to traumatic events (Friedman et al., 2011; Rothman, Exner, & Baughman, 2011; Shipherd, Maguen, Skidmore, & Abramovitz, 2011), as well as substance abuse, suicidality (King et al., 2008; Maguen & Shipherd, 2010), and depressive or anxiety disorders (Cochran, 2001) are noted. For SGM veterans, being a member of both veteran and SGM communities may contribute to a higher level of risk for poor health than membership in just one of these populations. Dual health disparities arising from two identities are clearly demonstrated when observed separately, yet there is a limited understanding as to how veteran and SGM status interact. The lack of veteran-specific population-based data stifles the opportunity for understanding how these two unique identities interact in terms of health outcomes and utilization.

### *9.10.3 Importance for SGM Discussion in Health Care*

Previous studies suggest that SGM individuals worry about experiencing poor care, discrimination, or rejection following disclosure of their sexuality to healthcare providers (Seaver, Freund, Wright, Tjia, & Frayne, 2008). Consequently, SGM patients may engage in various protective strategies to avoid conversations regarding sexual identity with their healthcare provider (Eliason & Schope, 2001). As discussed above, SGM status is associated with increased risk for specific health concerns. However, preventive health screenings could be performed if there were open communication with providers. Although consistent with findings in non-VHA settings, one study found that VHA providers are reluctant to raise the issue of SGM status (Dominick et al., 2006). In the sub-sample of 202 VHA providers at two facilities described above, about half reported that they never assess sexual orientation. Indeed, providers felt that veterans would raise the issue if it were important to care. While this study did not assess providers' or veterans' understanding of the relevance of sexuality to health outcomes, the findings from this small study suggest that increasing both provider and veteran knowledge about the relevance for health delivery is important.

### *9.10.4 Current Programs/Policies Targeted to SGM to Reduce Disparities/Improve Care within VHA*

VHA has increased its dedication to serve the specific health needs of subpopulations of veterans who may require a different approach to care. For example, in the last few decades VHA has created women's health clinics to provide female

veterans care appropriate to their specific needs. In addition, VHA endeavors to curtail racial and ethnic disparities in health care as well as SGM disparities by the creation of The Office of Health Equity.

The Office of Health Equity LGBT Workgroup recently recommended several immediate actions to the Principal Deputy Under Secretary for Health that were intended to address inequities in the healthcare environment for SGM veterans, and the majority of these goals have already been achieved. For example, "sexual orientation" and "gender identity and expression" are now included in VHA non-discrimination policies and caregiver policies have been revised to include a broad definition of caregiver and family. Moreover, the Principal Deputy Under Secretary for Health, encouraged hospitals to participate in the Human Rights Campaign Health Equality Index survey of SGM inclusiveness. One hundred and twenty-one facilities voluntarily completed the self-study. In June 2011, VHA released the first national policy to describe the services available to transgender veterans. These services included general health care, mental health care, hormone therapy, preoperative evaluation for sex reassignment surgery, and medically necessary postoperative care. The policy also confirmed that transgender veterans should be treated with respect and dignity, transgender veterans should be referred to by the name and gender preferred regardless of legal status, and VHA has a zero tolerance policy on discrimination. This transgender care policy, which was recently renewed (U.S. Veterans Affairs, Veterans Health Administration, 2013), will likely increase the number of transgender veterans who receive care at VHA. Subsequently, the Office of Patient Care Services created a Transgender Education Workgroup, which over the course of a year delivered three webinars about transgender care to several hundred clinicians, created toolkits about the policy for staff meetings, and developed an online repository of key resources on transgender health care that is available to all VHA employees.

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# Chapter 10
# Risk and Resilience Factors in Combat Military Health Care Providers

**Susanne W. Gibbons and Edward J. Hickling**

**Abstract** As an occupational group, military health care providers have received little attention, even though their risk for psychosocial sequelae such as psychological distress, alcohol misuse, and family stress, from deployment has been demonstrated. Concern has been raised about risk and resiliency within occupational groups like the military health care providers, where gender has been identified as a variable that can impact vulnerability to adverse effects of trauma, as well as how these reactions are managed. There is reason to worry about the long-term functional outcomes of war-exposed health care providers, especially since many of them are single African American females, possibly with dependent children. The chapter will progress through a brief overview of what is known about (or unknown) about military health care providers, from more general information about the occupational group to what is known about single female military health care providers.

**Keywords** Combat military health care providers • Risk factors • Resilience factors • Traumatic exposures • Female service members • Reintegration • Family stress

## 10.1 Introduction

Stress resulting from high-intensity deployments and reintegration inevitably takes its toll on individual service members and their support network stateside (Martin & Sherman, 2009). For these reasons, addressing the needs of the military member and their family is a public health priority for the United States (U.S.) Department of Defense (DoD) (Institute of Medicine, 2014). Military health care providers have been an integral part of military operations, serving in hazardous regions of the

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world to provide state-of-the-art battlefield and hospital care to ill, injured, and wounded warriors while also caring for humanitarian needs of the indigenous population. While a small percentage of total casualties have resulted in deaths (accessed October 7, 2014: http://www.defense.gov/news/casualty.pdf) many more have survived traumatic injuries, such as traumatic amputations, that would have been unimaginable during another time in history (Cater, 2012; McCarthy, 2003). The character of the "battle" has changed, as has the definition and application of "battlefield medicine" (Mcgaugh, 2011). As an occupational group, military health care providers have received little attention, even though their risk for psychosocial sequelae such as psychological distress, alcohol misuse, and family stress, from deployment has been demonstrated (Hickling, Gibbons, Barnett, & Watts, 2011; Jones et al., 2008; Kolkow, Spira, Morse, & Grieger, 2007).

This chapter describes the risk and resilience factors associated with military health care providers who have deployed. Because the military health care occupation includes a larger percentage of women, the emphasis is on female health care providers, who are more likely to be enlisted, single, and non-white/African American, serving in diverse health and medical care roles (Gibbons, Barnett, Herbig-Wall, Watts, & Hickling, 2012; Gibbons, Hickling, Barnett, Herbig-Wall, & Watts 2012; Middleton & Craig, 2011; Vogt, Smith, et al., 2011). The chapter will progress through a brief overview of what is known about (or unknown) about military health care providers, from more general information about the occupational group to what is known about single female military health care providers. This chapter will end with recommendations for practitioners and policy makers positioned to have influence at the individual and systemic level.

## 10.2 Combat Health Care Providers

Military health care providers have historically received little attention about how their experiences and exposures while serving in combat or terrorist regions impact their subsequent physical, functional, and mental well-being. In part, this may be due to the fact that combat-specific occupations such as health care have been viewed as low risk, as risk is known to be associated with combat intensity and exposure (Dohrenwend, Turner, Turse, Lewis-Fernandz, & Yager, 2008). However, the cumulative impact of multiple, intermittent, intensive exposures to life threats and human suffering, grief, and death is now recognized as having far reaching psychosocial effects on military medical personnel (Gibbons, Shafer, Aramanda, Hickling, & Benedek, 2014; Gibbons, Shafer, Hickling, & Ramsey, 2013). The most studied group of health care providers involved in past conflicts is the Vietnam nurse veteran cohort whose psychological disorders surfaced later and in some, persisted chronically (Kulka et al., 1990; Gibbons, Hickling, & Watts, 2012)—a long-term trajectory that can perhaps be avoided for health care personnel who have deployed, if we acknowledge the intensity of their roles and responsibilities and position ourselves to be sensitive to the needs of this group.

In war zones, health care providers are often involved in dangerous or stressful situations while dealing with devastating life-threatening injuries. Evidence suggests that exposure to life-threatening situations and traumatic experiences will increase the probability of adverse psychological disorders in health care providers, possibly even Post-Traumatic Stress Disorder (PTSD) (Hickling et al., 2011; Jones et al., 2008; Kolkow et al., 2007; Lubin et al., 2007). Other psychological and social difficulties reported upon return home include symptoms of depression, anxiety, use of alcohol, adverse impact on family, the possibility of divorce and marital strain (Hickling et al., 2011).

Psychosocial problems similar to those experienced by service members in other military occupations also impact military health care providers and support our current understanding that operational stress is not limited to what occurs in theater (Nash et al., 2010). Stress reactions influence the health care provider's ability to practice and resume optimal functioning upon reintegration; especially since upon return to their home stations, some care for the very same wounded warriors they cared for in theater. This phenomenon allows for little down time from any adverse war experiences, with the potential to re-traumatize these health care providers, perpetuating the operational stress in a way not experienced by service members in other military occupations (Nash et al., 2010).

## 10.3 Risk and Resilience Factors Associated with Military Health Care Provider Occupations

Stress-related risk and resilience factors associated with the military health care provider occupations can be viewed as developmental and environmental. When comparing deployment stress experienced by enlisted with officer health care providers, developmental differences in terms of professional and life experience are thought to be largely responsible for resilience seen in health care provider officers' psychosocial responses (Hickling et al., 2011). Enlisted health care providers serve in roles providing medical services on and off the battlefield. They may work as part of a patient service team in close contact with doctors, nurses, or other health care professionals. As combat medics, enlisted health care providers render first aid and frontline trauma care on the battlefield. Their exposure to direct combat and life threat is therefore far greater than what is typically experienced by health care officers (Hourani, Williams, & Kress, 2006; Seal et al., 2009; Smith et al., 2008).

Lack of maturity with regard to age, professional experience and military experience, compounded by the intensity of witnessing the horrors of war, all contribute to the increased psychological distress seen in enlisted health care providers (Chapman et al., 2012). However, differences between health care officers and health care enlisted extend beyond the war zone. Enlisted personnel more often report financial concerns and problems associated with new families (i.e. having a baby, childcare, housing), relationship problems with spouse or significant other, and family stress (Hickling et al., 2011). As a result of their overall distress, more

negative consequences such as post-traumatic stress symptomatology, generalized anxiety problems, depression, and a greater suicide risk are seen in this group when compared with health care officers.

While deployment remains the single greatest stressor for all health care provider service members, possible factors for resilience seen in the health care provider officer group include the age and developmental stage of these officers, social supports, and stable financial situations (Hickling et al., 2011). In general, military officers are more likely to leave behind families with children, but the needs of these families are different since the children are often older. For these reasons, in addition to the likelihood of lower combat exposure in theater, hardiness is seen in psychological screens for all military officers when compared with enlisted personnel. However, it appears that a greater percentage of health care officers experience generalized anxiety, depression, and hazardous alcohol use when compared with non-health care officers (Hickling et al., 2011). This finding is attributable to the demographic profile of this unique group and the challenges, both known and unknown, that they face while navigating their military careers and personal lives at home.

### *10.3.1 Military Health Care Provider Single Service Members*

United States (U.S.) military medical personnel include enlisted health care providers (i.e. about 75,000) and officer health care providers (i.e. about 28,000), the majority serving in the Army, then the Navy and Air Force respectively (accessed October 8, 2014: http://www.bls.gov/ooh/military/military-careers.htm). Of these, a large proportion of military health care providers are enlisted single females, many of whom are African American (Gibbons, Hickling, Barnett, et al., 2012). Concern has been raised about risk and resiliency within occupational groups like the military health care providers, where gender has been identified as a variable that can impact vulnerability to adverse effects of trauma, as well as how these reactions are managed (Kaloupek et al., 2010; Kimerling, Ouimette, & Wolfe, 2002). There appears to be a greater likelihood of depression in deployed female service members when compared with males and a few studies have found higher incidence of post-traumatic stress symptomatology while males have more substance use problems (Gibbons et al., 2012; Haskell et al., 2010; Hickling et al., 2011; Iverson et al., 2011; Lapierre, Schwegler, & LaBauve, 2007; Maguen, Ren, Bosch, Marmar, & Seal, 2010; Smith et al., 2008;Tanielian et al., 2008; Vogt, Smith, et al., 2011).

Besides gender and military occupation other demographic variables and mediators of stress that have been found to impact outcomes in deployed service members and others exposed to traumatic stress include socioeconomic status, ethnicity, and social support (Dohrenwend et al., 2008; Galea et al., 2008; Ozer, Best, Lipsey, & Weiss, 2003). Ethnic differences in post-traumatic stress seen in African American and Hispanic veterans, when compared with whites, are attributed to increased combat exposure, younger age, and less education (Dohrenwend et al., 2008). Evidence

also suggests the protective role of social support both in theater and stateside in the etiology of post-traumatic stress symptomatology (Brewin, Andrews, & Valentine, 2000; Ozer et al., 2003). Social connectivity and the ability to draw upon social relationships are critical for more positive outcomes after traumatic stress. For example, social support is associated with lower PTSD risk in both general and military settings (Brewin et al., 2000; Iversen et al., 2008; Ozer et al., 2003; Smith et al., 2008). Therefore, it is not surprising that unmarried or divorced female are more likely to screen positive for post-traumatic stress symptoms, and other mental and physical health problems as well as poor health-related quality of life (Dobie et al., 2004).

Female military health care providers, whether enlisted or officer, are more likely to be single than are their male counterparts (Hickling et al., 2011). This is particularly true for the female enlisted health care providers who are also more likely to be African American (Gibbons, Hickling, Barnett, et al., 2012). A number of psychological manifestations of stress (i.e. measures and symptoms of post-traumatic stress, serious psychological distress, generalized anxiety, alcohol misuse, and depression) are worse in the health care enlisted group, regardless of gender (Hickling et al., 2011). Research findings indicate post-deployment difficulties in all female health care providers include depression and anxiety, and hazardous drinking to a greater extent than seen in males functioning in similar health care roles (Gibbons, Hickling, Barnett, et al., 2012). This is troubling since females may be using alcohol to self-medicate the underlying psychological problems they are experiencing.

Another worrisome finding is that although male health care providers report increased conflict in their relationships post-deployment, females are more likely to report divorce or separation (Gibbons, Barnett, Herbig-Wall et al., 2012). Associations of co-morbid physical health problems with psychological distress are a legitimate concern for female health care providers who frequently lack the social support needed to identify problems, access care, and remain in treatment. Declines in physical health are often seen concurrent with negative psychological impact of exposures and experiences related to deployment (Dobie et al., 2004; Vasterling et al., 2010).

Clearly risk and resilience factors differ within the military health care provider occupational group since there are many more women in this occupational group (Gibbons, Hickling, Barnett, et al., 2012). Not only gender differences, but also racial/ethnic differences may moderate responses to operational stress which we know are mediated by a host of social, psychological, and cultural influences (Kimerling et al., 2002). The increased morbidity in female health care providers can therefore be attributed to a number of factors, including a combination of biologic, psychosocial, as well as societal and military etiologies.

### *10.3.2 Single Female Military Health Care Provider Self-Care*

The accumulation of stressors from military life and responsibilities at home are felt by single female health care providers and their families, wherever they live and work. Because the recent tempo of operations has been intense, often involving

multiple deployments to combat/terrorist theaters of operation, it is more likely than not, that over time, coping reserve is depleted (Nash et al., 2010). Military health care providers serve in dual roles as warriors who are combat trained and ready, and as healers, who care for patients with life-threatening injuries, while concerns with their own well-being are secondary (Gibbons et al., 2014). Coping abilities and health seeking behaviors of single health care providers are therefore of concern, not only for the individuals, but also for their families who depend on them for continued nurturing and support.

For the deployed single female health care provider, the stress of being single may further exacerbate reintegration problems, leading to greater challenges in the long term. Single females in the armed forces depend on their careers for financial security, with the stress of the recent U.S. and global economic downturn impacting them as well (Gibbons, Barnett, & Hickling, 2012). A possible explanation for this is that in the health care occupational group, health care officers are perhaps more likely to be over-extended financially from frequent relocations, educational expenses from children in college and other large expenses that occur later in life. Military and societal/economic factors have possibly added to the cumulative nature of stress experienced by single female service members, whether enlisted or officer rank. With the load of stressors they bear, how and if the female health care providers self-care becomes an even greater concern.

The vast majority of service members experience some psychosocial distress associated with combat/terrorist deployment with some combat health care providers subsequently seeking professional help (Gibbons et al., 2014). The key to positive outcomes is recognition of signs and symptoms of distress, early intervention, and continuing care until problems have either resolved or been reduced to a manageable level (Nash et al., 2010). Although barriers to mental health care have been studied extensively in combat veterans they are not clearly defined for health care providers involved in the current wars. An abundance of literature on OEF/OIF veterans indicates that barriers to care, negative attitudes about treatment and stigma are the primary reasons for inadequate mental health care (Zinzow, Britt, McFadden, Burnett, & Gillespie, 2012). An additional barrier to care that has not been explored, but that should be considered, is that health care providers would be seeking care from those with whom they work—their peers, subordinates, or supervisors. The belief that seeking mental health counseling regardless of the reason would damage one's military career has been noted in combat troops as well as the health care provider subgroup where a third or more of survey respondents endorsed this belief (Hickling et al., 2011). Within the health care provider occupational group, female officers have more concerns with military professional consequences associated with seeking counseling through the military which may have to do with the fact that they utilize military mental health services to a greater extent than other health care provider subgroups (Gibbons, Barnett, Hickling, et al., 2012). Many female health care providers cope with stress by talking to a friend or family member and are more likely than males to use prayer to cope.

Anecdotal evidence indicates that a significant barrier to social support among senior female health care providers, officer and enlisted, is a lack of an appropriate

peer group from which to form a support network. Female service members above the rank of O-3 or E-6 are frequently a minority, especially during deployments when there are fewer service members overall. Associating with the opposite sex, with the other corps (officer/enlisted), or with those more than one rank higher or lower is frowned upon; can be construed as fraternizing, or worse, as inappropriate sexual liaisons; and can lead to counseling or administrative punishment by superiors. The lack of appropriate personnel with whom to associate combined with a fear of being viewed as forming inappropriate relationships or of punitive action and a threat to one's carrier can leave female health care providers emotionally isolated and thus at higher risk for psychosocial sequelae from deployment. Since we know that higher levels of social support have been associated with lower levels of mental health care stigma, we are reminded of the need to encourage appropriate and necessary social bonds to help single female health care providers both in theater and upon return home (Pietrzak, Johnson, Goldstein, Malley, & Southwick, 2009).

### *10.3.3 Challenges of Stress and Coping*

The importance of social support and other strategies to manage stress and cope, both in theater and upon return home, should not be underestimated. During deployment, officer health care providers use adaptive strategies and coping behaviors to protect against psychological distress (Gibbons et al., 2014) (Table 10.1). *Psychological First Aid* secondary prevention mechanisms can be successfully incorporated into work and personal routines while deployed, probably reducing the impact of traumatic exposures and experiences (Hobfoll et al., 2007). Through individualized self-management approaches that incorporate calming and self-reflection, as well as necessary support for one another, health care providers are able to persevere in dire circumstances. The fact that medical personnel are able to support one another is a critical attribute for such a high-risk group (Forbes et al., 2011).

**Table 10.1** Military health care providers: healthy adaptation to traumatic exposure

| Determinants of healthy response to trauma | Adaptive response | Cognitive or behavioral |
|---|---|---|
| Control and self-efficacy | Clarity of occupational purpose | Task orientation |
| Cognitive appraisal | Meaningful contribution | Service to our troops and our country |
| Post event coping | Social support | Talk to friends, family, mentor, chaplain, formal or informal talk within a group after trauma |
| Coping after deployment | Staying connected with colleagues after deployment | Continue relationship because deployment experience is bonding |

Where health care providers are learning these techniques and self-care strategies is not clear, but the knowledge that this is going on indicates a benefit from training all medical personnel in these concepts as they appear helpful in mitigating response to the stress of combat-related exposures. Healthy adaptation occurs if health care providers are monitoring their own responses to potentially traumatic events and constantly reinforcing positive beliefs concerning their roles and responsibilities (Gibbons et al., 2014). Those who are isolated, reclusive, and do not talk about events are the ones with greatest need, both in theater and after return home. The inevitable reduction in coping self-efficacy that leads to mental defeat in health care providers with excessive trauma exposure in terms of dose, severity, and length of deployment is a problem for military leadership since long-term consequences can be dramatic.

Upon return home from deployment, military health care providers often find the most solace in remaining connected to those with whom they shared the traumas of war and the stressors associated with deployment (Gibbons et al., 2014). Anecdotal reports indicate that among all of the services, when a deployment occurs, greater numbers of health care providers are required than when in garrison (at the home base) because of the larger number of injuries in combat zones. This frequently leads to the need to augment a medical unit with individuals from other medical units—sometimes from within the same service (Army to Army, etc.) often from a sister service. Individual augmentees (IAs) often arrive alone or in very small groups, unknown to the medical unit to which they are attached, which is also unfamiliar to them. Since individuals in the gaining medical unit have already formed bonds, IAs are often seen as outsiders and can feel like outsiders. Their deployment experience is thus compounded by their initial or lasting isolation. While they may eventually form bonds and a support network within the gaining medical unit, once the deployment has ended, IAs normally return to their home units and are separated from those with whom they have shared the deployment experience. Once the physical separation has occurred, it is difficult to maintain a connection. So, the solace that they could have experienced by remaining connected may not be an option. This situation leaves IAs at greater risk for social isolation upon their return home.

Despite these uncontrollable factors, those suffering from war zone stress do benefit from adequate rest, reinforcement of positive emotions, and reminders that healing is communal (Gibbons et al., 2014). Deployment and military operations may have a greater impact on social relationships among female health care providers as seen by self-report of increased conflict in relationships upon return home and more divorce or separation in this group (Gibbons, Hickling, Barnett, et al., 2012). Emotional numbing criteria on post-traumatic stress screening are endorsed more often in female health care providers than in males which is worrisome since the inability to feel interferes with normal human relations and can potentially disrupt important long-term relationships. This is another reason for recognizing the need to support female health care provider heads of household upon return home, providing them with the benefit and protection of adequate social support as they manage challenging times readjusting to life stateside.

### *10.3.4 Single Female Service Member Parents*

Regardless of the psychological distress experienced by the reintegrating service member, if the strain of deployment and traumatic events in theater are significant enough, the military family responds with negative consequences that might include increased marital conflict and possibly divorce or domestic violence (Zeber, Noel, Pugh, Copeland, & Parchman, 2010), increased parental maltreatment or neglect of children (Chandra et al., 2010; Finley, Baker, Pugh, & Peterson, 2010; Gibbs, Martin, Kupper, & Johnson, 2007), spousal depression and anxiety that interferes with parenting (Mansfield et al., 2010), and a greater risk for emotional and behavioral problems with children (Flake, Davis, Johnson, & Middleton, 2009). Whatever the family structure or composition and the problems they face, caregivers of military children are more often females (Chandra et al., 2010).

Military children experience deployment stress academically, emotionally/socially, and behaviorally; however, overall, they have been found to be incredibly resilient to the impact of the current wars (Davis, 2010). In a review of mental health utilization within the military health system, increased outpatient visits for anxiety, behavioral, and stress disorders have been seen in older children, when parents were married and when the deployed parent was a father (Gorman, Eide, & Hisle-Gorman, 2010). Concern has been raised about military child mental health, behavioral problems, and other general medical care in single parent and female deployed-service-member households, which is difficult to track since 65 % of mental health services occur outside the military health system by civilian and other care providers (Gorman et al., 2010). As is the case with the majority of military families, the single female health care providers serving in the current conflicts live in the general community where deployment and reintegration stresses are dealt with by military, family, and community supports in an effort to mitigate family stress. They depend on available resources to manage.

## 10.4 Practice and Policy Considerations

There is reason to worry about the long-term functional outcomes of war-exposed health care providers, especially since many of them are single African American females, possibly with dependent children. Gender and racial disparities together put these women at increased risk for poorer physical, functional, and mental health well-being. We have responsibility as practitioners and policy makers to ensure that identification, care, and follow up are adequate for the best possible individual and family outcomes.

Even without clinically significant posttraumatic stress symptomatology, the psychological distress revealed in screening results, the experience of stress in the family, and concerns over military job and mental health care stigma are concerning. Our analyses have given us an idea how these female service members are coping, how-

ever we do not know what exactly they are doing to care for themselves and their children. As was the case for Vietnam nurse veterans many decades earlier, a sense of control and a sense of purpose are important while caring for each other in theater and, if fortunate to maintain these bonds, upon return stateside. However, the lasting impact of horrific exposures and disturbing memories from war is unlikely to dissipate. War leaves a lasting impression. Long-term implications for single African American female health care providers and their families deserve further study.

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# Chapter 11
# Gender and Marital Status in the Military: Implications for Understanding Intimate Partner Violence and Mental Health Symptoms

**Heather M. Foran, Kathleen M. Wright, and Jeffrey L. Thomas**

**Abstract** Marital status and gender are two demographic characteristics with relevance for understanding risk for social and psychological difficulties such as mental health problems and intimate partner violence. This is particularly true in military populations where resources and social support may vary among the subgroups of single male servicemembers, single female servicemembers, married male servicemembers, and single female servicemembers. Identifying differences in risk for mental health symptoms and intimate partner violence can in turn, inform development of programs targeting these different subgroups based on their specific needs. In this chapter, we review the literature on marital status and gender with respect to mental health problems and intimate partner violence and present new findings on relative risk for these groups in active duty military samples. Specific findings and their implications for interventions are discussed.

**Keywords** Marital status • Gender • Military populations • Intimate partner violence • Mental health

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## 11.1 Overview of the Current Chapter

Gender and marital status are important sociodemographic characteristics among military populations since resources and needs may differ based on these characteristics. Women service members represent a smaller proportion of military populations and may accordingly have different pressures, demands and access to peer support. Being married enables couples access to certain resources that are not available to unmarried couples in the military (e.g., family relocation services). In addition, there are important differences in social support and strains based on whether one is single or in a relationship. Accordingly, both gender and marital status may pose different risks for psychological and social problems. Understanding these differences is relevant for designing prevention programs aimed at reducing mental health symptoms and other social/interpersonal problems, such as intimate partner violence. For example, if one risk factor is strong among married women, but not among single women or men, then a prevention program aimed at addressing that risk factor may be effective only for married women.

Thus, in this chapter, we review what is currently known about the intersection between marital status and gender for understanding mental health and intimate partner violence in the military. We first discuss the relevance of marital status as a demographic characteristic in military populations. Second, we provide a review of gender differences in the military, focusing on demographics and mental health symptoms. Third, we integrate the two concepts and review the empirical literature on the intersection between marital status and gender. We focus primarily on differences between married and non-married men and women, but discuss differences among other non-married groups when data are available (e.g., divorced, never married). We discuss both differences in prevalence of mental health problems and intimate partner violence as well as the strengths of risk relations. Finally, we conclude by discussing future research directions.

## 11.2 Importance of Marital Status

In the US military, over half of service members are married (US Department of Defense, 2012). From studies with civilian samples, there are certain benefits attributed to being married. Those who are married, especially those in a satisfying relationship, have lower risk for a host of physical and mental health problems (see Fincham & Beach, 2010, for a review). Theoretically, the benefits of marriage may be explained by the provision of emotional and tangible support, positive experiences, and security. In times of stress, such as during a deployment, a marital partner may serve as a source of support and buffer the stressor–health association. Both being married and the quality of the relationship may decrease the risk for mental health symptoms among those with higher levels of combat exposure. Further, being married is associated with lower risk of suicide during deployment (National Institute

of Mental Health, 2011) and is one of the most robust predictors of reduced likelihood of major depression in civilian epidemiological studies (Bromet et al., 2011).

Of course, a variety of significant others such as peers, parents, relatives, or dating partners can serve as sources of support similar to a spouse. Thus, being married per se is not the key factor but rather having a close intimate relationship where one can solicit support may be the more important factor in understanding the impact on mental and physical health (e.g., Southwick, Vythilingam, & Charney, 2005). A more appropriate differentiation would take into consideration the quality of relationship(s) rather than simply marital status.

Nonetheless, marital status is a commonly used demographic variable to group individuals and some services are distributed differently based on marital status (e.g., relocation benefits). In addition, certain post-deployment services are tailored for single and married service members to meet the unique needs and interests of each group. Thus, understanding differences between married and single service member needs for support and mental health care may help to maximize the effectiveness of support services and mental health care programs.

### *11.2.1 Marital Status Demographic Differences in the Military: Age, Of Course, but Why Gender?*

In terms of demographic characteristics, single service members are more likely to be younger, lower in rank, and lower in education (US Department of Defense, 2012). These differences are all expected since they are related to age. Accordingly, it is important to account for differences due to age and professional experience related factors (e.g., rank, education) before concluding that they are due to marital status differences.

In addition to age-related differences, a difference that is *not* expected is that single service members are also more likely to be female. Based on demographic statistics provided by the US Department of Defense (2012), women are significantly less likely to be married than men ($\chi^2 = 11{,}585.46$, $p = 0.000$). This difference is true of military samples but not comparable civilian samples. Thus, there appears to be something unique to the military population in which women are more likely to be non-married than men. In particular, women service members are more likely to divorce over their military career than men (Karney & Crown, 2007).

What explains these gender differences in the military? To date, there is no clear answer, but we provide a few possible explanations below.

1. *Entering population differences*. There may be difference between the population of women and men entering the military that predict marital status differences.
2. *Predominantly male work force and gender bias*. Although more women serve in the US military than ever before, they still represent a small percentage compared to men. Approximately 14.5 % of Active Duty and 18.5 % of Reservists are women (US Department of Defense, 2012). Over recent years, there have

been more efforts to promote a work climate that is not gender biased (e.g., Army Regulation 600-20), however, simply by the smaller representation of women, male culture dominates. There is not strong evidence that the US military differs in terms of gender bias practices from other equivalent civilian organizations in which the workforce and environment is disproportionately male, but nonetheless, this poses a unique set of challenges for women. The mechanisms through which gender biases may influence women's intimate relationships is unknown but one possibility would be by increasing stress, which may in turn impact risk for divorce or impair formation of a new relationship. Alternatively, due to gender biases, military women may have more difficulty finding a supportive partner compared to military men.

3. *Civilian spouse* versus *dual active duty couple differences*. The traditional constellation of a military family is a male service member and a civilian spouse who may or may not be working outside the home (Joint Economic Committee, 2007; US Department of Defense, 2012). Accordingly, the support structure in terms of networks for civilian partners may be better suited for the needs of a civilian wife compared to a civilian husband. This may place a further strain on the marriages of military women and civilian husbands.

   In addition, married women in the military are also more likely to be in dual active duty marriage than married men (US Department of Defense, 2012). The challenges of balancing two careers and separations due to deployments may impose a challenge for dual active duty couples. Thus, one possibility is that differences in likelihood of being divorced or single relate to the unique occupational strains for women service members and their partners and families compared to men service members.
4. *Population differences in leaving the military*. Women are disproportionately less like to stay until retirement than men and one common reason for leaving the military is due to family separations and strain (Department of Defense and Defense Department Advisory Committee on Women in the Services, 2005; Joint Economic Committee, 2007). Related to the family constellation differences mentioned above and also gender roles regarding child-rearing, women with children or who would like to have children may face additional pressures in the career-family role balance compared to men. Thus, women who chose to marry and have children, may leave the military at a greater proportion than their male counterparts who traditionally may have a spouse who cares for their children and experience more occupational and cultural support to maintain a full-time military career.

In sum, all four of the above possibilities may contribute to gender differences in the military to some degree. Unfortunately, there is not sufficient research to know which of these possibilities (or others not listed) best explain gender differences in marital status and divorce risk in the military. Further, although the experience of a divorce typically has negative consequences, it may represent a positive long-term outcome as compared to staying in an unhappy marriage. There also may be gender differences in the mental health impact of being single or divorced for working men and women. From civilian research, men tend to be more satisfied in their marriages

than women (Fowers, 1991) and are at increased risk for suicide following a divorce as compared to women (Kposowa, 2000). It is unclear whether these differences are also true for military men and women and in what ways marital and family processes are unique by gender.

## 11.3 Women in the Military

Before continuing the discussion of the intersection between gender and marital status, it is important to consider how the role of women in the military has evolved in recent years. There are more women serving in the military now than ever before, and with the lift of the ban on combat for women, these numbers are expected to continue to rise. Over 200,000 women have been deployed to Iraq or Afghanistan during the OEF/OIF/OND conflicts. Approximately 11 % of those deployed were women who engaged in combat-related assignments (Boyd, Bradshaw, & Robinson, 2013). Many have been deployed more than two times (National Center for Veterans Analysis and Statistics, 2011; Tan, 2012). Further, as of January 2013, over 150 women have been killed in action and over 1,000 women have been injured (Fischer, 2013).

More women serving in the military translates into more women veterans in need of care. Women OEF/OIF veterans show high rates of service utilization in the Veterans Affairs Healthcare system with an estimated 44 % enrolled at the VA (Hayes & Krauthamer, 2009; National Center for Veterans Analysis and Statistics, 2011; Patten & Parker, 2011). To accommodate this growing population of women veterans, VAs have been expanding women's services and more research is being conducted on women's mental health needs. In a systematic review of the literature from 2004 to 2008, more studies were conducted on "women and military" ($N = 195$) than in the previous 25 years (Bean-Mayberry et al., 2011). Although encouraging, this still represents a small fraction compared to the studies conducted with male service members. We highlight some of the recent findings regarding combat exposure, other forms of trauma, and mental health gender differences in the next section.

### *11.3.1 Women, Combat Exposure, Other Traumas, and Mental Health Symptoms*

Although until recently women have not served in combat, they have experienced combat exposure, albeit less frequently than men (Maguen, Luxton, Skopp, & Madden, 2012). Rates of combat exposure among women range from 25 % among women at the VA to as high as 75 % among active duty samples of women following a deployment (Dutra et al., 2012; Hassija, Jakupcak, Maguen, & Shipherd, 2012). In one large study of active duty soldiers who had deployed to Iraq or Afghanistan ($N = 554$ women; $N = 6.697$ men), exposure to death was reported by nearly one-third of women and two-thirds of men, witnessing killing was reported by 9 % of

women and 45 % of men, and killing was reported by 4 % of women and 36 % of men (Maguen, Luxton, et al., 2012).

Notably, women are at higher risk for other types of trauma such as sexual trauma than men. In a study of the entire VA outpatient population, positive screens for military sexual trauma were found among 22 % of women and 1 % of men (Kimerling, Gima, Smith, Street, & Frayne, 2007). Military sexual trauma has received much public attention, but it is unclear whether rates of sexual trauma in the military differ from rates found in civilian samples (e.g., Black et al., 2011). Taken together, the higher rates of combat trauma for men but sexual trauma for women may explain why overall men and women may not differ in risk for PTSD symptoms. Studies of gender differences in PTSD among military populations have not found consistent evidence of gender differences (e.g., Mota et al., 2012; Seal, Bertenthal, Miner, Sen, & Marmar, 2007). This is in contrast to findings in civilian samples in which rates of PTSD are typically higher among women (American Psychiatric Association, 2013). This gender difference in civilian populations is partially attributed to differences in interpersonal violence and sexual trauma experienced by women (American Psychiatric Association, 2013; Vogt et al., 2011). In studies in which both genders experience sexual trauma or child abuse, gender differences in risk for PTSD are not significant; however, women are at higher risk for development of PTSD in comparison to men for many other types of traumas such as accidents or disasters (Tolin & Foa, 2006).

This is not to suggest that combat-related PTSD symptoms are not a significant problem for women in the military. Similar to men, PTSD rates are higher among deployed samples and are associated with combat exposures (Luxton, Skopp, & Maguen, 2010). For example, among women OEF/OIF military, the prevalence of PTSD is estimated to be between 10 and 19 % (Bean-Mayberry et al., 2011).

Other gender differences in mental health symptoms found in civilian samples tend to hold true in military forces. Women report more mood and anxiety disorders and tend to report less hazardous alcohol use (Bean-Mayberry et al., 2011; Foran, Slep, & Heyman, 2011; Maguen, Cohen, et al., 2012; Mota et al., 2012; Woodhead, Wessely, Jones, Fear, & Hatch, 2012). Among previously deployed service members, the onset of depression is approximately 16 % for women and 6 % for men (Wells et al., 2010). In the Millennium Cohort study, new episodes of binge drinking were higher among men (21 %) compared to women (15 %) after returning from a deployment (Smith et al., 2011). However, in another study that examined alcohol consumption using gender-specific guidelines for safe consumption (1 per day for women, 2 per day for men), nearly twice as many women reported drinking at unsafe or borderline unsafe levels (9 %) compared to men (5 %) (Lande, Marin, Chang, & Lande, 2007). In that same study, men were more likely to report aggressive behaviors while drinking compared to women, but women reported higher likelihood of doing something they later regretted. The finding regarding alcohol and aggression is consistent with other studies of intimate partner aggression that show the association is stronger for men than women (Foran et al., 2011; Foran & O'Leary, 2008). These studies suggest that interventions aimed at prevention of aggression which target drinking behaviors as a risk factor may be more effective for men than women.

## 11.4 Marital Status and Gender

Now that we have provided an overview of previous research on marital status and gender, in the section we integrate the two and review the literature on mental health and family violence differences among women and men as a function of marital status. In particular, we focus on PTSD symptoms, hazardous drinking, mental health perceptions, and intimate partner violence. With the goal of prevention and treatment efforts aimed at mental health problems in mind, we discuss differences in both base rates and risk relations among married and single men and women. In addition to reviewing the literature, we also provide new analyses from our own research efforts that help further elucidate prevention and treatment-relevant differences by gender and marital status.

### *11.4.1 Intimate Partner Violence*

A relevant public health problem to consider in understanding gender differences and relationships is intimate partner violence. Presently, there have been very few representative studies using reliable measures of family violence in military samples to provide estimates of prevalence. Some of the first large studies with US military sample found rates after adjusting for demographic factors similar to civilian samples (Heyman & Neidig, 1999). In a more recent representative study of Air Force active duty members surveyed worldwide across 82 bases ($N = 42{,}744$), rates of intimate partner violence were also similar to rates found in US civilian samples (Foran, Slep, Heyman, & US Air Force Family Advocacy Research Program, 2011). This survey was anonymous and both perpetration and victimization by men and women were assessed. In addition, prevalence rates for physical aggression were adjusted for underreporting using a correction factor based on a separate sample of approximately 1,500 couples. An important feature of this study was that both acts of aggression (e.g., hitting, punching) and aggression that was of clinical significance (e.g., resulting in injuries) were assessed. Intimate partner violence acts were more often reported as perpetrated by women (15 versus 13 % for men), whereas clinically significant intimate partner violence (IPV) was perpetrated by more men (4.7 % for men and 3.5 % for women).

In addition to physical violence, clinically significant emotional victimization was also evaluated for both active duty members and a separate sample of over 17,000 civilian spouses. Clinically significant emotional victimization was defined using criteria extensively evaluated in military samples and adopted in the DSM-V (see Heyman, Slep, Eckhardt, & Foran, 2013 for a review of the criteria). Approximately 9 % of women and 6 % of men reported experiencing clinically significant emotional victimization in the past year and this gender difference was statistically significant. Among civilian spouses, 6.5 % of men and 10.7 % of women spouses reported clinically significant emotional victimization in the past year (Foran, Heyman, Slep, & US Air Force Family Advocacy Program, 2014).

Rates were also examined separately for married and single, but in a relationship, men and women active duty members after adjusting for other demographic covariates such as race/ethnicity, religion, rank, and occupation type (Foran et al., 2011). Even after accounting for these differences, single men had higher adjusted odds of both clinically significant IPV and IPV overall than married men (both perpetration and victimization). In contrast, the opposite was found for women. Married women had high adjusted odds of clinically significant emotional victimization, clinically significant physical victimization, and IPV overall (both perpetration and victimization).

In a set of follow-up studies, the relative strengths of risk factors for physical IPV perpetration, clinically significant physical perpetration, and clinically significant emotional victimization were compared (Foran et al., 2014; Slep, Foran, Heyman, & Snarr, 2010; Slep, Foran, Heyman, Snarr, & US Air Force Family Advocacy Program, 2011). One of the goals of these studies was to inform program planning by testing whether similar risk factors would be equally important for married and single active duty members in prediction of IPV types. Using a socio-ecological framework, risk factors of IPV types across individual, family, workplace, and community levels were examined. Results were strikingly consistent for women; the strength of risk relations with the various types of IPV did not differ for married women or single women in a current relationship. Although most risk relations also generalized for men, there were some exceptions. In particular, lower relationship satisfaction, organization satisfaction, and support from leadership were stronger predictors of higher risk for at least one form of IPV among married men compared to single men. Men who were single fathers were also at higher risk for physical perpetration and clinically significant physical perpetration compared to married fathers. In other words, having children reduces risk for IPV only among married men, but not among single men.

These findings are intriguing and suggest that gender and marital status are both important considerations for understanding IPV in the military. Nonetheless, the processes by which gender and marital status influence risk for family violence are not well understood. Further, there is limited evidence for effective intervention and prevention programs in military samples as well as civilian samples (Babcock, Green, & Robie, 2004).

### *11.4.2 Mental Health Symptoms and Perceptions of Stigma and Barriers to Care*

As noted earlier, there is evidence of gender differences in mental health symptoms. Hazardous drinking rates appear somewhat higher among men, depression is higher among women, and PTSD appears to be similar across genders in military samples. Separately, studies examining marital status differences show that hazardous drinking and PTSD symptoms tend to be higher among single service members compared to married service members (Riviere, Kendall-Robbins, McGurk, Castro, & Hoge, 2011; Wilk et al., 2010). These findings can be attributed to developmental or

age-related differences that impact emotional regulation, coping skills, and risky behaviors. For example, the behaviors of single and married men differ in frequency of visiting bars and acceptance of binge drinking activities (Littlefield, Sher, & Wood, 2009). The lower risk for mental health problems among married service members may also be due to the support provided by the spouse that functions as a protective effect against stressors. The way in which these differences may be amplified or subdued by gender has not been well studied.

In one study, the strength of socio-ecological risk factors for hazardous drinking among active duty Air Force personnel were compared using multi-group analyses (Foran et al., 2011). Although most risk factors generalized across marital status, there were some risk factors that did not. Family income was a stronger risk factor for hazardous drinking among single men and women than married men and women. Other differences among married compared to single men were also detected. Married men's hazardous drinking was more strongly related to their personal coping, depressive symptoms, religious involvement, and work group cohesion than single men's hazardous drinking. These findings suggest that an intervention or prevention program aimed at targeting these risk factors for hazardous drinking will not be equally effective for married and single men.

In addition to examining mental health symptoms, it is also important to understand differences in mental health stigma and barriers to mental health care. It may be that married and single men do not differ in risk for a specific mental health problem, but one group is more likely to perceive mental health care more positively and seek services. However, this has not been examined.

To address these research questions, we examined gender and marital status differences in PTSD symptoms, depression, hazardous drinking, mental health stigma, and perceived barriers to care in two studies with active duty members. Both studies were conducted by the US Army Medical Research Unit—Europe/WRAIR following a deployment to Iraq or Afghanistan.

*Study 1*. Active duty members completed an anonymous paper and pencil survey 4 months after deployment to Iraq (see Wright, Foran, Wood, Eckford, & McGurk, 2012, for sample details). A total of 1,720 active duty members participated. Surveys were administered in large groups at a base during post-deployment. PTSD symptoms (17-item Post-Traumatic Stress Disorder Checklist; Blanchard, Jones-Alexander, Buckley, & Forneris, 1996), hazardous drinking (Wright et al., 2012), mental health stigma (Hoge et al., 2004), and barriers to care (Hoge et al., 2004) were assessed. We tested whether there was an interaction between gender and marital status (single/divorced versus married) in predicting the above listed mental health problems using univariate ANOVAs. In all models, we included important covariates that could provide alternative explanations for findings (rank, recent deployment, and age).

Results of these analyses are presented in Table 11.1. There were no differences in perceived barriers to care by gender, marital status, or their interaction. Men reported more PTSD symptoms and hazardous drinking than women. Single service members reported more hazardous drinking than married service members. There was also a significant interaction between gender and marital status in predicting mental health stigma. As shown in Fig. 11.1, married women reported higher stigma than married men (simple slope analysis; $t = 2.11$, $p = 0.047$).

**Table 11.1** Gender and marital status predicting mental health symptoms and perceptions

| | Stigma | PTSD | Hazardous drinking | Barriers to care |
|---|---|---|---|---|
| | *F*-statistic | | | |
| Gender | 2.85 | 4.47* | 5.44* | 0.46 |
| Marital status | 0.17 | 0.13 | 7.67* | 0.01 |
| Gender × Marital status | 3.89* | 0.00 | 1.10 | 3.08 |

Covariates included rank, age, and whether their most recent deployed rotation was to Iraq with their current unit
$N = 1{,}720$
$^*p < 0.05$

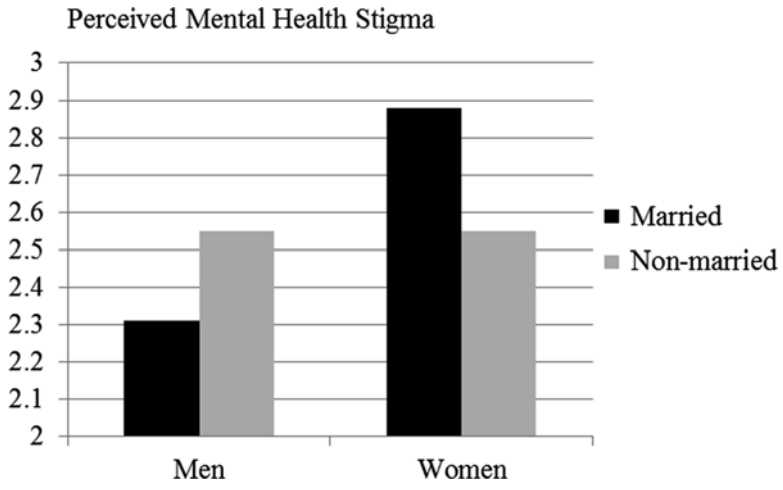


**Fig. 11.1** Gender and marital status differences in mental health stigma. $N = 1072$ active duty members

*Study 2*. In a follow-up study, we collected a larger sample of active duty members so that there would be more power to detect interaction effects. In this second study, we were particularly interested in understanding mental health perceptions including mental health stigma, barriers to care, and attitudes toward mental health given our previous findings regarding stigma in study 1. This second sample included 3,126 active duty members. Methods were similar to study 1; the survey was anonymous, informed consent was provided, and it was administered on base in large groups. Study 2 differed from study 1 in that active duty members were surveyed at reintegration rather than 4 months post-deployment.

One question we were particularly interested in is whether there would be differences if we examined subgroups of single service members further. Thus, marital status was separated into three categories—married, separated/divorced, and single members. Consistent with the military population as a whole, women were more likely to be non-married than men ($\chi^2 = 5.21$, $p = 0.022$) and this was due to women being more likely to be separated or divorced than men ($\chi^2 = 9.39$, $p = 0.009$).

Univariate ANOVAs were conducted with predictor variables and the interaction term between gender and marital status (with the three categories). In addition to controlling for rank and age in the model, we also controlled for history of mental health care since experience with services could explain differences in perceptions regarding mental health and mental health care. This included whether they received care before entering the military, before deploying while in the military, and during the deployment.

Results are presented in Table 11.2. When examining barriers to care, post hoc analyses with Bonferroni correction indicated the main effect for marital status was due to a significant difference between single and married service members specifically, such that single service members reported more barriers to care than married service members ($p = 0.03$). For negative attitudes towards mental health, there was a main effect for gender such that men reported more negative attitudes than women. There was also a trend for marital status and gender to interact in predicting mental health stigma similar to study 1. Graphical analysis indicated that this trend was due to divorced women tending to report less stigma than other groups (see Fig. 11.2).

**Table 11.2** Gender and marital status predicting mental health perceptions

| | Stigma | Barriers to care | Negative attitudes |
|---|---|---|---|
| | *F*-statistic | | |
| Gender | 2.03 | 0.18 | 3.98* |
| Marital status | 2.01 | 3.69* | 1.01 |
| Gender × Marital status | 2.80** | 0.21 | 0.06 |

Covariates included rank, age, and history of mental health care
$N = 3{,}126$
*$p < 0.05$
**$p = 0.061$

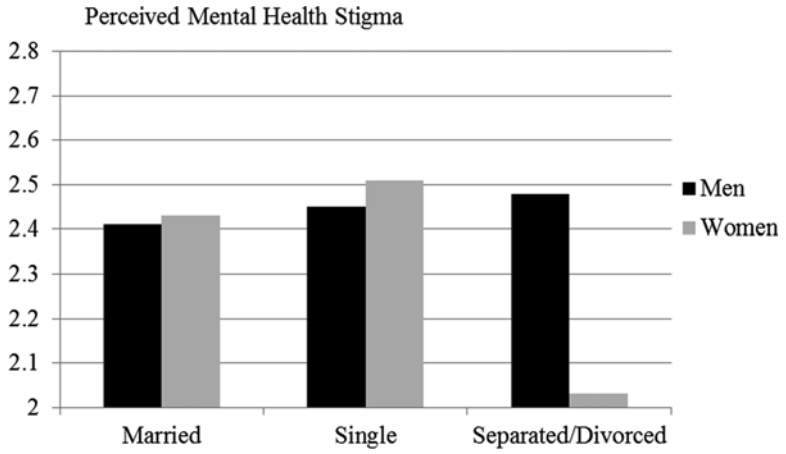


**Fig. 11.2** Gender and marital status differences in mental health stigma. $N = 3{,}126$

*Study 1* and *2 Discussion*. Taken together, these studies provide preliminary support that mental health stigma does indeed function differently for some gender/marital status groups. In particular, the findings suggest divorced women may report lower mental stigma than other groups. It is difficult to know what processes may explain this trend. Future studies are needed to explore stigma perceptions and how they influence service utilization among divorced as compared to married women. One important question to consider in follow-up research is how many of the women who are divorced or single are in intimate relationships. There is some indication that more women service members who are unmarried are in relationships than men service members (Foran et al., 2011, 15 % of men and 27 % of women).

These two studies also confirm previously known gender and marital status differences, regarding hazardous drinking even after accounting for other demographic factors. Thus, the differences between married and single service members in risk for hazardous drinking is not simply due to single service members tending to be younger and of lower rank. This suggest that differentiating based on marital status and gender are meaningful to understanding hazardous drinking risk beyond age and rank. Both gender and marital status are independent risk factors for hazardous drinking and do not interact with each other.

## 11.5 Recommendations for Future Research and Treatment Planning

The findings in this chapter illustrate that understanding of processes involving gender and interpersonal relationships is complex with many unanswered questions. In conclusion, we offer several suggestions for future research directions to further understand gender and marital status differences in the military.

*Studies at the couple level*. First, more studies that include both partners are needed. Very few studies have evaluated civilian spouses and dual active duty couples. If we are to understand why active duty women experience more victimization and mental health stigma when married than single, we need to assess both partners and evaluate differences in stressors, support for mental health care, and predictors of violence. It may be some of the reasons we reviewed regarding gender differences in marital status among military service members also impact victimization risk. For example, a civilian husband and active duty wife may feel that less support is available to them in the community that is largely geared towards the more traditional active duty husband—civilian wife structure, and this may place more strain on their relationship, which in turn increases conflict and aggression. Further, if the same women who report victimization, also experience more mental health stigma, this may impact their likelihood of getting the care they need. Studies that jointly assess mental health stigma, service utilization, and intimate partner violence would help to elucidate interactive processes, identify vulnerabilities in the support structure, and possible points for intervention.

*Attention to relationship quality and parenting*. Further, there are almost no studies that have examined gender and marital status differences in relationship satisfaction and parenting quality. If we are to understand why divorce rates differ by gender and how this may impact mental health, more research examining family functioning among men and women service members is needed. Children who have a deployed parent appear to be at increased risk for emotional and behavioral disorders (Card et al., 2011), but whether the impact of family separation on parents and their children differs for mothers and fathers in unknown.

*Longitudinal studies with women*. Many of the questions about gender and marital processes can only be addressed with longitudinal studies that reveal how mental health symptoms change and relationship processes unfold for men and women. One study that holds promise to address questions regarding gender and relationships is the Millennium Cohort study. This is a 21 year prospective study of US military personnel followed every 3 years starting in 2001. The sample includes an impressive 48,000 women, representing approximately 30 % of the total sample. Women were explicitly oversampled in the study design to allow for ample sample size to examine impacts for women. One limitation noted by the authors, however, is that the participating women differ from the population of military women on almost all demographic characteristics (Seelig et al., 2012). Although there are statistical approaches to account for this bias, it is nonetheless something to consider in interpretation of the findings and illustrates the difficulties in this type of longitudinal research.

*Understanding of multiple stressors for women*. We also need to understand what stressors are most important to women and how they may combine to exert additive deleterious impacts. For example, stress from deployment without combat exposure may impact women's relationships differently than for men. Further, some researchers have suggested that an intimate partner may play a unique role in buffering combat stressors for women. They hypothesize that emotional validation of a traumatic event is more important for women and thus, family separations while experiencing trauma may place women under more strain (e.g., Skopp et al., 2011, see also Boyd et al., 2013).

Deployments may be especially difficult for women with children who prior to deployment bore the primary caregiving responsibilities (Dutra et al., 2012). An estimated 40 % of active duty members have children, so this is not a trivial consideration. Notably, deployed women are three times as likely to divorce as deployed men (Boyd et al., 2013). In the Millennium Cohort study, both female gender and divorce were risk factors for PTSD symptoms (Smith et al., 2008). Moreover, being divorced, widowed, or separated was a significant risk factor for a mental health problem over time compared to single women (Seelig et al., 2012).

*Attention to measurement validity*. There needs to be more attention to measurement validity and consistency in the way constructs are operationalized across studies. Past studies often treat deployment as a homogenous variable and this may explain the mixed findings regarding effects of deployments. Deployments differ significantly in length and mission and this is especially true for the different branches of military service.

In the case of IPV, there are validated measures for IPV and clinically significant IPV but they are rarely used in family violence samples. Often victimization is assessed without any reference to the impact. If the field is to move forward, standard validated measures of IPV and marital quality should be consistently used. This problem is not unique to military studies, but is a global problem for family violence research (World Health Organization, 2013).

Moreover, as mentioned earlier in this chapter, being married per se may not be the most predictive construct for consideration. If one truly wants to understand the influence of interpersonal relationships on mental health and vice versa, then a more nuanced approach should be used that considers relationship quality, other dating relationships, and other relationships of significance. History of relationship status is another important construct, as "single" can include those who are divorced, going through a separation, or widowed. Of unique importance to military families, is consideration of another component of relationship status—geographical separation. Couples may be married, but not living together due to their assignments. Although these factors complicate the study of relationship differences, exclusion of these types of factors, results in too much heterogeneity to obtain a clear picture of relationship effects.

*Tailored prevention and intervention studies*. As mentioned above, unfortunately programs that show strong evidence of effectiveness in reducing IPV are not yet available. Further, another form of violence—military sexual trauma (MST), is also understudied with a lack of validated interventions. MST can occur either within the relationship or by a stranger. In fact, sexual aggression is more commonly perpetrated by an intimate partner. Although there is a lack of data for military samples, data from US representative samples such as the National Intimate Partner and Sexual Violence Survey show that the majority of sexual aggression is perpetrated by a current or former intimate partner (Black et al., 2011). Women are disproportionately at risk for sexual aggression, and this is a significant international public health issue (Black et al., 2011; WHO, 2013). The military, with their organizational capacity, has the opportunity to make changes in this regard, that may be more difficult in civilian samples where access to the community is less organized. Intimate partner violence and sexual violence are problems that have received more attention over the past few years and hopefully, will yield fertile ground for better risk factor research and prevention studies that can translate into lasting change and inform civilian interventions, as well.

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# Chapter 12
# Impact of Childhood Sexual Abuse Severity on the Adjustment of Navy Recruits: An Evaluation of the Importance of the Nature of the Abusive Relationship

**Valerie A. Stander, Cynthia J. Thomsen, Stephanie K. McWhorter, Lex L. Merrill, and Joel S. Milner**

**Abstract** This chapter briefly reviews research regarding the impact of premilitary interpersonal violence on the long-term adjustment of military personnel. It further presents new data regarding methodological issues in assessing the impact of premilitary childhood sexual abuse (CSA) severity on enlisted Navy personnel, with a specific focus on the nature of the CSA victim–perpetrator relationship as a severity indicator. Results suggest that both the experience of threats/force during CSA and the relationship in which the abuse occurred are important factors in defining abuse severity. This study further highlights the complex nature of CSA in different relationship categories for male and female victims. We conclude by identifying directions for future research on the long-term impact of premilitary interpersonal violence on service members.

**Keywords** Sexual abuse • Childhood • Recruits • Incest • Abuse severity • Gender

Over the course of the recent lengthy military operations supporting the US-led War on Terror, military researchers have become increasingly interested in the impact of cumulative operational stress and combat trauma on active-duty personnel. For example, there has been increasing attention to the effects of military sexual trauma among deploying personnel (Rumsfeld, 2004; Street, Kimerling, Bell, &

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Pavao, 2011). Similarly, it has become clear that many military personnel enter the service with a premilitary history of interpersonal victimization, including sexual trauma (Rosen & Martin, 1996c; Stander, Merrill, Thomsen, Crouch, & Milner, 2008; Wolfe et al., 2005), which could potentially exacerbate adjustment difficulties in response to military operational stress.

More than two decades of research on military personnel from all service branches has shown that premilitary interpersonal trauma has significant detrimental effects on the adjustment and career success of service members. Much of the initial literature in this area focused on the transition into military life and early attrition from service. For instance, in a very early study researchers noted an overrepresentation of personnel with histories of childhood trauma among Air Force recruits dropping out of basic training (Crawford & Fiedler, 1992). Subsequent studies of Air Force recruits further verified heightened attrition among those reporting premilitary sexual abuse, physical abuse, family mental health problems, and parental marital stability (Carbone, Cigrang, Todd, & Fiedler, 1999; Cigrang, Todd, Carbone, & Fiedler, 1998; Smikle, Spencer, Fiedler, Satin, & Sorem, 1996). Similarly, a history of premilitary interpersonal trauma predicted increased attrition from basic training among Marine Corps recruits (Wolfe et al., 2005). Furthermore, a series of reports on Army personnel provided evidence that premilitary trauma can have long-term effects on career success; both male and female soldiers with a history of childhood physical–emotional or sexual abuse reported poorer psychological adjustment and more career difficulties (Rosen & Martin, 1996a, 1996b).

## 12.1 History of a Program of Research in the Navy

In this same early timeframe, the Naval Health Research Center began a particularly extensive effort to understand the impact of premilitary interpersonal trauma—including family violence—on the well-being and career success of Navy enlisted recruits (Merrill et al., 1997; Merrill, Hervig, & Milner, 1995). The Survey of Recruits Behaviors (SRB) program of research was initiated by Navy Family Advocacy based on the premise that it is important to understand the unique needs of recruits with a prior history of childhood interpersonal trauma. Specifically of interest was whether this subgroup of personnel faces unique challenges adjusting to service life and whether they are at increased risk of violent revictimization or perpetration themselves.

The SRB involved three participant samples, beginning in 1994 with a cross-sectional survey of 3,765 recruits in basic training in Orlando Florida (Merrill, 2001). From 1996 to 1997, two additional samples were recruited at the Naval Recruit Training Center in Great Lakes, Illinois (Merrill, Guimond, Thomsen, & Milner, 2003; Merrill, Thomsen, Sinclair, Gold, & Milner, 2001). One of these was a larger cross-sectional sample enrolled anonymously ($N = 5{,}697$) and the other was a longitudinal sample ($N = 5{,}498$). Both new participant groups were initially assessed using the same comprehensive survey of premilitary trauma exposure and

mental and behavioral adjustment. However, identifying information was collected from longitudinal study participants so they could be resurveyd after 6-months, 12-months, and 24-months of Navy service.

The results of this research program confirmed and extended prior findings regarding the impact of premilitary interpersonal trauma on service members. In these data, personnel with histories of childhood physical and sexual abuse reported poorer mental health, including symptoms of depression, anxiety, anger/irritability, and suicidal ideation (Merrill, 2001). About one in ten recruits already had experienced significant symptoms of posttraumatic stress prior to entering basic training (Stander, Merrill, Thomsen, & Milner, 2007). Participants with versus without histories of premilitary interpersonal trauma further reported more behavioral risk factors and deleterious outcomes, including high numbers of sex partners, substance misuse, and interpersonal violence victimization and perpetration (Merrill et al., 1999; Merrill, Thomsen, Gold, & Milner, 2001; Milner et al., 2010; Trent, Stander, Thomsen, & Merrill, 2006).

In general, results suggested that cumulative trauma exposure can compound adjustment difficulties among military personnel, although for women, childhood sexual abuse alone may be particularly consequential. For instance, Merrill, Stander, Thomsen, Crouch, and Milner (2004) found that for men, childhood physical abuse, sexual abuse, and exposure to parental domestic violence additively contributed in predicting attrition from military service, while sexual abuse alone was uniquely significant for women. This gendered pattern of results was again reflected in examining risk for sexual perpetration and victimization. In one study there was an additive increase in risk of sexual perpetration among men experiencing both childhood physical and sexual abuse (Merrill, Thomsen, Gold, et al., 2001). In contrast, among women, risk for sexual revictimization was associated only with a history of childhood sexual abuse (Merrill et al., 1999).

Data from the SRB further indicated that the severity of childhood trauma is important in explaining long-term adjustment. Among female participants reporting childhood sexual abuse, a composite latent factor representing abuse severity was predictive of poor coping skills, high risk behavior (i.e., dysfunctional sexual behavior, more sex partners), and ultimately poor mental health adjustment (Merrill et al., 2003; Merrill, Thomsen, Sinclair et al., 2001). Abuse severity was a more important and consistent predictor of coping and adjustment than was parental support (Merrill, Thomsen, Sinclair et al., 2001), and it predicted the development of maladaptive coping styles that may influence long-term behavioral patterns associated with risk of revictimization (Merrill et al., 2003).

## 12.2 Current Progress in Studying Childhood Trauma Outcomes in Military Populations

During the current era, and particularly since the onset of the War on Terror, there has been a dramatic increase in studies of the health and well-being of military personnel. However, there also has been an understandable shift in research focus.

Although some studies have continued to address factors that contribute to successful adjustment into service life (Choi et al., 2013; Lane et al., 2002; Manacapilli et al., 2012), far more have studied risk and protective factors for adjustment across the deployment cycle. Here, premilitary factors like childhood interpersonal trauma are still relevant, but they are more distal.

In major recent programs of research, premilitary interpersonal trauma has been assessed as a potentially important risk factor, but it has not always been prioritized for analysis at first in programmatic work (Heeringa et al., 2013; Ursano et al., 2014). Also, it has often been analyzed only descriptively or as a control variable, yielding inconsistent results (Black, Gallaway, Bell, & Ritchie, 2011; Gilbertson et al., 2002; Jacobson et al., 2012; Rona et al., 2012; Shin et al., 2011; Sundin et al., 2012). In some recent studies, premilitary interpersonal trauma has been evaluated as a focal factor in predicting the well-being of service personnel (Aversa, Lemmer, Nunnink, McLay, & Baker, 2014; Birn, Patriat, Phillips, Germain, & Herringa, 2014; Bryan, McNaugton-Cassill, Osman, & Hernandez, 2013; Buckman et al., 2012; Goodwin et al., 2012; Gradus, Shipherd, Suvak, Giasson, & Miller, 2013; Griffith, 2012; Koola et al., 2013; LeardMann, Smith, & Ryan, 2010; Miller, Schaefer, Renshaw, & Blais, 2013; Montgomery, Cutuli, Evans-Chase, Treglia, & Culhane, 2013; Perales, Gallaway, Forys-Donahue, Spiess, & Millikan, 2012; Seifert, Polusny, & Murdoch, 2011; P. H. Smith et al., 2014; Tsai & Rosenheck, 2013; Van Vorhees et al., 2012; van Zuiden et al., 2012; Youssef et al., 2013). Some of these studies suggest that more complex mediated or moderated analytic models may be required in order to adequately capture the impact of distal predictors like childhood abuse (Aversa et al., 2014; Goodwin et al., 2012; Griffith, 2012; Miller et al., 2013; Montgomery et al., 2013; Van Vorhees et al., 2012; van Zuiden et al., 2012).

Studies examining the impact of childhood interpersonal trauma on deploying personnel also would likely benefit if they assessed the severity of relevant early trauma experiences rather than just documenting any exposure (Gilbertson et al., 2002; Jacobson et al., 2012; T. C. Smith et al., 2008). Without estimates of severity, it will most likely be difficult to accurately estimate the impact of cumulative trauma. Unfortunately, even when data regarding trauma frequency or severity are available, researchers sometimes conduct analyses using dichotomous indicators of prevalence (LeardMann et al., 2010). Furthermore, some reports give very little information about how premilitary abuse has been measured (Gilbertson et al., 2002; Kasai et al., 2008; Rona et al., 2012; Sundin et al., 2012).

## 12.3 Impact of Childhood Sexual Victimization within Family Relationships: Survey of Recruits Research Results

In working with data from the SRB, we have experienced a number of challenges inherent in studying the premilitary interpersonal trauma experiences of military personnel. For instance, we have previously published work on the impact of study

design and trauma definition on prevalence rates (Olsen, Stander, & Merrill, 2004; Stander, Olson, & Merrill, 2002). In the present study, we report on our efforts to evaluate the influence of different choices in operationalizing the severity of childhood sexual abuse (CSA) on the results of research regarding the long-term impact of abuse on Navy personnel. In these analyses, we particularly focus on the relationship in which the abuse occurred (e.g., whether the abuse occurred with a family member or not) as a possible severity indicator.

Many different characteristics of CSA have been considered in defining abuse severity. Although the invasiveness of the sexual act (e.g., sexual penetration) is probably most common, empirical evidence does not necessarily support this as the strongest indicator of CSA severity (Young, Riggs, & Robinson, 2011). On the other hand, literature reviews have identified the use of force, as well as the victim–perpetrator relationship as central indicators of severity (i.e., significant predictors of poorer long-term outcomes; Hillberg, Hamilton-Giachritsis, & Dixon, 2011). Of these two characteristics, the victim–perpetrator relationship is particularly challenging to operationalize. In studies where the victim–perpetrator relationship has been assessed as an indicator of severity, a wide range of operationalizations has been utilized (e.g., how familiar was the perpetrator to the victim; was the victim living with the perpetrator; was the perpetrator a caretaker; was the perpetrator a parent/father figure; Fassler, Amodeo, & Griffin, 2005; Feiring, Simon, & Cleland, 2009; Neumann, Houskamp, Pollock, & Briere, 1996; Young et al., 2011). In some cases, the CSA relationship has simply been classified into categories and reported descriptively, without including it as a factor in primary data analyses (Niehaus, Jackson, & Davies, 2010; Yancey, Naufel, & Hansen, 2013; Zink, Klesges, Stevens, & Decker, 2009).

Efforts to create a categorical continuum that might be related to severity have been relatively uncommon. All attempts at this of which we are aware have been singular (i.e., used in a single study), have lacked a clear set of dimensions guiding the relationship category rankings and have not been subject to systematic empirical validation (Beach et al., 2013; Ketring & Feinauer, 1999; Lauscher & Schulze, 1998; Rosenthal, Rasmussen Hall, Palm, Batten, & Follette, 2005). Furthermore, sometimes a continuum has been constructed, but used only descriptively in data analyses (Keterndahl, Burge, & Kellogg, 2006; Niehaus et al., 2010; Zink et al., 2009), or in combination with other severity characteristics as part of a summary measure of severity (Carlson, Maciol, & Schneider, 2006; Fassler et al., 2005; Fortier et al., 2009).

Although few researchers have applied a theoretical approach in classifying the nature of the CSA victim–perpetrator relationship, a number have hypothesized that the closeness or intimacy of the relationship may be a particularly important underlying dimension that influences long-term outcomes for victims (Hillberg et al., 2011; Young et al., 2011). In addition to intimacy (solidarity, power or interpersonal status also has long been considered a fundamental underlying dimension of interpersonal relationships (Brown, 1965). These two dimensions together have been applied in conceptualizing human interaction across many different social contexts, and they are clearly inherent in many of the operationalizations that have been used to define victim–perpetrator relationships in CSA research.

### 12.3.1 Study Objectives

The primary objective of this study was to examine the relative importance of the victim–perpetrator relationship as an indicator of CSA severity. Furthermore, we wanted to assess the relative importance of the victim–perpetrator relationship compared to other hypothesized severity indicators in accounting for multiple types of adjustment outcomes among recruits entering Navy basic training. For this purpose, we developed a new categorical CSA relationship continuum based on three underlying dimensions. As in previous research, we considered the closeness or intimacy of the relationship as well as the power differential. We also incorporated the additional dimension of *perceived cultural violation*. This dimension represents the spectrum of cultural expectations for the types of relationships in which consensual sex is expected and accepted. These cultural expectations most likely color victims' interpretations of abusive sexual encounters regardless of how misplaced the attributions may be. For example, a sexual relationship between a child and someone identified as a peer may be construed more culturally acceptable (e.g., lower perceived cultural violation) even when that peer is substantially older; on the other hand, any sexual relationship between a child and an adult family member is likely to be viewed as an extreme cultural violation.

In Table 12.1, we have broadly characterized different types of relationships in which CSA may occur along each of these three dimensions. Based on the rankings in Table 12.1, we initially hypothesized the following CSA relationship rank order with respect to expected severity of effects: (1) older peer, (2) family acquaintance, (3) stranger, (4) authority figure, (5) extended family, (6) immediate family, and (7) father figure. There were two ties in the summed rankings across relationship categories (i.e., acquaintances/strangers and authority/extended family). In these cases, prior research provided some empirical justification for a final rank order, because CSA with strangers and incest may be uniquely negative experiences (Browne & Finkelhor, 1986; Gallagher, Bradford, & Pease, 2002; Ketring & Feinauer, 1999; Madonna, Van Scoyk, & Jones, 1991; Nakashima & Zakus, 1977; Nelson, 1986).

**Table 12.1** Power, intimacy, and perceived cultural violation ratings (0 = low to 2 = high) for specific types of relationships in which childhood sexual abuse may occur

| Relationship | Intimacy | Power | Cultural violation | Total |
|---|---|---|---|---|
| Older peer | 2 | 0 | 0 | 2 |
| Acquaintance | 1 | 1 | 1 | 3 |
| Stranger | 0 | 1 | 2 | 3 |
| Authority figure | 1 | 2 | 1 | 4 |
| Extended family | 1 | 1 | 2 | 4 |
| Immediate family | 2 | 1 | 2 | 5 |
| Father figure | 2 | 2 | 2 | 6 |

## *12.3.2 Methods*

### 12.3.2.1 Participants and Procedure

Participants in the two SRB samples that participated between 1996 and 1997 were included in this study if they reported a premilitary history of CSA defined as sexual contact prior to the age of 14 with someone at least 5 years older. Volunteers completed a self-report survey during their first week of training in a classroom setting. Only those who provided complete information regarding CSA relationship severity were included (women, $n=1{,}231$; men, $n=524$). However, due to missing data on other variables, *n*'s vary and are reported for each analysis. On average, participants were about 20 years old ($M=19.86$ range = 17–35). Most (82 %) were high school graduates with no further education, and most (85 %) were single, never married. The majority was White (59 %), although diverse races/ethnicities were represented (Black, 20 %; Hispanic, 13 %; Asian, 3 %; and "other," 5 %).

### 12.3.2.2 Measures

The SRB initially collected information on general demographic characteristics (age, gender, ethnicity, education, and marital status). At the beginning of the survey, participants were also asked to report any premilitary history of mental health counseling (i.e., number of sessions; range, 0–10+) and to indicate whether they personally believed they had been a victim of CSA (yes/no). Subsequently, the details of participants' CSA experiences were more thoroughly assessed using the Childhood Sexual Experiences Checklist (CSEC). Developed for this study, the CSEC assessed whether participants had ever experienced sexual contact (kissing, touching, oral, anal, or vaginal intercourse) prior to age 14 with someone 5 or more years older. The CSEC also asked participants to specify their relationship to the person with whom CSA occurred (e.g., parent, stepparent, sibling, grandparent, teacher, employer). For each perpetrator indicated, participants reported on a number of characteristics that might indicate abuse severity, including their own age and the perpetrator's age when CSA first occurred, the level of sexual contact (touching only vs. sexual penetration), the number of times CSA happened, and whether the perpetrator used force or threats to gain their compliance.

Symptoms of posttraumatic stress disorder (PTSD) were assessed using the 17-item Los Angeles Symptom Checklist (range, 0–67; Cronbach's alpha = 0.92) (King, King, Leskin, & Foy, 1995). The ten clinical subscales (8–9 items each; alphas, 0.78–0.90) of the Trauma Symptom Inventory (Briere, 1995) measured additional symptoms that survivors of CSA might be likely to experience (Anxious Arousal, Depression, Anger/Irritability, Intrusive Experiences, Defensive Avoidance, Dissociation, Sexual Concerns, Dysfunctional Sexual Behavior, Impaired Self-Reference, and Tension Reduction Behavior). Lifetime

suicidal plans and attempts were assessed along a 4-point scale (0 = none, 1 = ideation only, 2 = plans, 3 = ideation and plans). Alcohol abuse was defined using a 22-item version of the Michigan Alcoholism Screening Test (range, 0–43; alpha = 0.79) (MAST; Alexander & Mangelsdorff, 1994; Selzer, 1971). Last, total frequency of nonmedical drug use (marijuana, PCP, LSD, cocaine, amphetamines, tranquilizers, barbiturates, heroin, inhalants, steroids, or designer drugs; range = 0–77) during the year prior to basic training was assessed using a set of items adapted from the Department of Defense Survey of Health Related Behaviors (Bray et al., 1992).

### *12.3.3 Analyses and Results*

Table 12.2 lists the percentage of male and female CSA victims reporting abuse within each victim–perpetrator relationship category. Although most participants (77 %) reported CSA in only one type of relationship, 18 % reported perpetrators from two categories and 5 % reported more than two (maximum = 6). Because of this, the left half of Table 12.2 presents percentages for the highest ranked category reported (i.e., participants are represented only once), while the right half presents total percentages reported for every relationship category (i.e., some participants are represented in multiple categories). Few participants (<10 %) reported experiences with strangers or immediate family members, with the notable exception of father figures for women. In a more detailed breakdown, 10 % of women reported CSA with their father and 13 % reported experiences with a stepfather (<1 % reported both). Figures for men were much lower (father = 3 %; stepfather = 2 %).

**Table 12.2** Percentages of female and male respondents reporting childhood sexual abuse (CSA) within each category of the relationship severity continuum

| | Highest ranked relationship (%) | | All relationships (%)[a] | |
|---|---|---|---|---|
| Relationship category | Women | Men | Women | Men |
| Older peers[b] | 7 | 19 | 13 | 30 |
| Acquaintances | 17 | 21 | 31 | 29 |
| Strangers | 4 | 6 | 7 | 8 |
| Authority figures[b] | 7 | 23 | 10 | 27 |
| Extended family[b] | 34 | 22 | 40 | 23 |
| Immediate family[b] | 8 | 5 | 9 | 6 |
| Father figures[b] | 22 | 5 | 22 | 5 |

[a]Includes reports by participants experiencing abuse in multiple relationships; percentages do not sum to 100 %. Women, $n = 1{,}188$–$1{,}231$; Men, $n = 506$–$524$

[b]Indicates significant gender differences ($p < 0.01$) in the total prevalence of CSA within specific relationship categories

## 12.4 Characteristics of Child Sexual Abuse in Different Types of Relationships

Table 12.3 shows the characteristics of women's and men's CSA experiences within each relationship category. There were several noteworthy patterns in the characteristics of abuse common within different victim–perpetrator relationships. First and foremost, CSA was more likely to involve the use of threats/force in higher ranked relationship categories. Also, generally speaking, abuse began at a younger age and with a bigger victim–perpetrator age gap in higher ranked victim–perpetrator relationship categories such as with a father figure, but at a later age with a smaller age gap when it involved an older peer, for instance. Even though the likelihood of sexual penetration for boys was highest with father figures compared to other types of CSA relationships, the relationship severity continuum was significantly associated with the likelihood of sexual penetration only for women, and was more common in cases of incest with immediate family and father figures than in other relationship categories. Also, for women the correlation between the relationship continuum and the frequency of CSA was significant, with more incidents of CSA reported in higher ranked relationship categories.

Overall, women reported more severe CSA than did men with respect to all characteristics but sexual penetration. More particularly, women were significantly more likely than men to report the use of threats/force within all victim–perpetrator categories except peers and father figures. On average, women were significantly younger than men at the onset of CSA with acquaintances, authority figures, and extended family, although men were younger than women on average at onset with older peers, and marginally so with father figures. The victim–perpetrator age difference was significantly greater for women than for men where CSA involved acquaintances, strangers, authority figures, and extended family. Finally, although women reported a greater frequency of CSA overall, within individual relationship categories, gender differences were only significant for CSA with strangers, and here men reported more incidents than did women.

## 12.5 CSA Severity and Participant Adjustment

Our final set of analyses assessed how well the psychological and behavioral adjustment outcomes of Navy recruits in our sample could be explained by the CSA victim–perpetrator relationship and the other CSA severity characteristics assessed. Preliminarily, we examined the validity of the assumption that our categorical continuum was linearly associated with each of the potential adjustment outcomes we considered using Pearson correlations, graphs, and simple binomial tests of ordinal relationships among means. Based on this evaluation, we simplified our continuum somewhat by collapsing two sets of categories that were not empirically distinguishable (acquaintances and strangers; immediate family and father

**Table 12.3** Characteristics of childhood sexual abuse (CSA) within the highest ranked relationship category reported

| | Threats or force (%) | | Age at onset[a] | | Age difference[a] | | Sexual penetration (%) | | Total occurrences[a] | |
|---|---|---|---|---|---|---|---|---|---|---|
| Relationship category | Women[b] | Men[b] | Women[c] | Men[c] | Women[c] | Men[c] | Women[b] | Men | Women[c] | Men |
| Older peers | 15 | 8 | **12.09** | **11.39** | 7.50 | 7.95 | 62 | 54 | 21.26 | 17.94 |
| Acquaintances | **49** | **15** | **8.56** | **9.81** | **20.48** | **10.81** | 50 | 50 | 12.04 | 8.97 |
| Strangers | **69** | **21** | 9.64 | 10.72 | **20.11** | **13.34** | 44 | 46 | **2.17** | **5.21** |
| Authority figures | **61** | **19** | **6.70** | **9.02** | **18.11** | **10.09** | 54 | 58 | 16.27 | 11.22 |
| Extended family | **60** | **31** | **7.46** | **8.17** | **23.96** | **11.52** | 54 | 54 | 15.09 | 10.15 |
| Immediate family | **62** | **31** | 6.78 | 7.60 | 11.70 | 12.54 | 71 | 58 | 22.88 | 13.91 |
| Father figures | 68 | 57 | 8.19 | 6.83 | 26.22 | 26.17 | 64 | 75 | 40.84 | 21.05 |

[a]Means are presented for age at onset, victim–perpetrator age difference, and total occurrence of abuse. Women, $n = 1{,}103$–$1{,}206$; Men, $n = 445$–$515$. *Bold type* indicates significant ($p < 0.05$) gender differences in abuse characteristics within relationship categories. The relationship continuum rankings were significantly ($p > 0.001$) correlated with increasing prevalence of multiple CSA severity characteristics; significant correlations are identified with *superscript letters* ([b]Tau-*c* and [c]Pearson correlation)

**Table 12.4** Correlations between the 5-level victim–perpetrator relationship continuum and multiple adjustment outcomes

| Outcome | Women | Men |
|---|---|---|
| Psychological symptoms | | |
| Posttraumatic stress | 0.07* | 0.09* |
| Anxious arousal | 0.05 | 0.11* |
| Depression | 0.09** | 0.16*** |
| Anger/irritability | 0.04 | 0.08 |
| Intrusive experiences | 0.08** | 0.11* |
| Defensive avoidance | 0.10*** | 0.13** |
| Dissociation | 0.03 | 0.14** |
| Sexual concerns | 0.03 | 0.17*** |
| Impaired reference | 0.09** | 0.14** |
| Behaviors | | |
| Dysfunctional sex | 0.03 | 0.07 |
| Tension reduction | 0.06* | 0.11* |
| Suicidality | 0.04 | 0.12** |
| Alcohol use | 0.00 | –0.02 |
| Drug use | 0.00 | –0.01 |
| Identification and service use | | |
| Self-definition | 0.36*** | 0.42*** |
| Service use | 0.11*** | 0.21*** |

Note: Women, $n = 1{,}133–1{,}223$; Men, $n = 483–520$
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

figures). Table 12.4 lists correlations between the final 5-level continuum and each of our outcomes. As can be seen in the table, the simplified 5-level continuum had a significant linear association with most adjustment outcomes for both men and women. Associations were clearly more substantial for self-definition as a victim of CSA, use of services, and psychological symptoms; most associations between the 5-level relationship continuum and behavioral outcomes were not significant.

Next, we conducted a series of hierarchical regression analyses in order to evaluate the relative importance of the hypothesized victim–perpetrator continuum in comparison with other CSA severity characteristics in explaining the current mental and behavioral adjustment of participants. In a first block, the relationship continuum and six additional CSA severity variables (use of force, age at onset, victim–perpetrator age difference, severity of sexual contact, total occurrences, and number of perpetrators) were entered simultaneously. We also included gender as a control variable in Block 1. Subsequently, terms representing 2-way interactions between the relationship continuum and other predictors (i.e., gender and the 6 other CSA characteristics) were allowed to enter the model in stepwise fashion. In contrast with Table 12.3, in these analyses we considered the characteristics of all CSA experiences for those with multiple perpetrators, not just the characteristics of CSA with the most severe perpetrator.

Table 12.5 shows all effects that were statistically significant in this set of regression analyses. After controlling for other CSA characteristics, the main effect of the relationship continuum was significant for five outcomes (depression, defensive avoidance, impaired self-reference, self-definition of abuse, and use of treatment services). In each case, worse outcomes were associated with higher ratings on the continuum. Analyses also revealed two moderating effects of gender. Post hoc regressions conducted separately for men and women revealed that the effect of CSA relationship severity was significant for men but not for women in relation to both sexual concerns and service use.

Additional significant interactions suggested that the importance of the victim–perpetrator relationship in predicting CSA victims' long-term outcomes varied depending on other aspects of the abuse. For instance, significant interactions between use of threats/force and the relationship continuum were observed for several outcomes (PTSD, anger/irritability, dissociation, impaired self-reference, and self-definition of abuse). The form of these interactions indicated that if CSA involved the experience of threats/force, any further information about the relationship in which the abuse occurred was largely irrelevant or even trended in a negative direction. In the most pronounced of these effects, the impact of the continuum on long-term symptoms of anger/irritability and dissociation were significantly reversed ($p < 0.05$), suggesting less negative outcomes for those reporting the experience of threats/force in higher-ranked victim–perpetrator relationships. The continuum did predict a greater likelihood of self-defining abuse even among those reporting threats/force, but the association was significantly weaker in this case than when threats/force were not present. By contrast, when CSA had not involved the use of threats/force, the victim–perpetrator relationship continuum made a significant and positive contribution in explaining all outcomes for which this interaction was significant.

Although the use of threats/force was the most consistent moderator of the effects of the relationship continuum on outcomes, it was not the only significant moderator. Additional interaction effects suggested that the relationship continuum may only predict certain poor outcomes in combination with other severity indicators. The most noteworthy of these was sexual penetration. For several outcomes (PTSD, intrusive experiences, defensive avoidance, dissociation, and self-definitions of abuse), the impact of the relationship continuum was significant only when it occurred in combination with sexual penetration (versus touching only). Further, the continuum only predicted depression and sexual concerns among persons reporting multiple perpetrators, and it only predicted service use for those with higher frequencies of CSA. Finally, again reflecting the pattern noted for the use of threats/force, the victim–perpetrator relationship continuum had stronger effects among those reporting smaller age differences between themselves and their perpetrators for a few outcomes (depression, intrusive experiences, defensive avoidance, self-definition), and somewhat stronger effects on self-definition of abuse among those reporting an older age at onset.

Our final set of analyses compared the utility of the CSA relationship continuum to that of a simple incest indicator. To do this, we repeated the series of regression models described above, replacing the continuum with a dichotomous

**Table 12.5** Significant results from regression of long-term outcomes on the 5-level relationship continuum, controlling for other childhood sexual abuse (CSA) characteristics

| | Main effects | | | | | | | | Interactions with the Relationship Continuum | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Outcome (final $R^2$) | Sex | RC | TF | AO | AD | SP | TO | NP | Sex | TF | AO | AD | SP | TO | NP |
| Psychological symptoms | | | | | | | | | | | | | | | |
| Posttraumatic stress (0.21) | 0.05* | | 0.09** | | | | | | | −0.06* | | | 0.06* | | |
| Anxious arousal (0.17) | 0.07** | | 0.06* | | | | | 0.06* | | | | | | | |
| Depression (0.21) | 0.06* | 0.06* | 0.06* | | | | 0.06* | | | | | −0.06* | | | 0.05* |
| Anger/irritability (0.14) | | | | | | | 0.05* | 0.06* | | −0.07** | | | | | |
| Intrusive experience (0.24) | | | 0.12*** | | | | 0.07** | | | | | −0.08** | 0.05* | | |
| Defensive avoidance (0.29) | 0.15*** | 0.06* | 0.11*** | | | | | | | | | −0.08** | 0.05* | | |
| Dissociation (0.19) | | | | | | | | 0.07* | | −0.09*** | | | 0.07** | | |
| Sexual concerns (0.17) | | | | | | | | 0.10*** | −0.07** | | | | | | 0.05* |
| Impaired reference (0.18) | | 0.07* | | | | | | | | −0.08** | | | | | |
| Behaviors | | | | | | | | | | | | | | | |
| Dysfunctional sex (0.23) | −0.16*** | | | | | | 0.07** | 0.10*** | | | | | | | |
| Tension reduction (0.18) | −0.11*** | | | | | | 0.08** | 007* | | −0.05* | | | | | |

(continued)

**Table 12.5** (continued)

| | Main effects | | | | | | | | Interactions with the Relationship Continuum | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Suicidality (0.18) | 0.06* | | | −0.07* | | | 0.10*** | 0.06* | | | | | | | |
| Alcohol use (0.20) | −0.18*** | | | | | | | 0.06* | | | | | | | |
| Drug use (0.19) | −0.15*** | | −0.06* | | | | 0.05* | | | | | | | | |
| Definition & service use | | | | | | | | | | | | | | | |
| Self-definition (0.66) | 0.21*** | 0.20*** | 0.18*** | −0.19*** | 0.13*** | 0.19*** | 0.06** | −0.08*** | | −0.08*** | 0.06** | −0.04* | 0.06** | | |
| Service use (0.23) | | 0.08** | | | | | 0.10*** | | −0.05* | | | | | 0.06* | |

Note: Only significant results are reported in the table

Main effects were first entered simultaneously in these analyses; subsequently interactions were allowed to enter in stepwise fashion; results are reported at time of entry. Missing values for CSA characteristics other than the relationship continuum were replaced with the mean. $N = 1{,}616–1{,}743$

RC = relationship continuum. TF = experience of threats or force. AO = age at onset. AD = age difference between victim and perpetrator. SP = sexual penetration. TO = total occurrences. NP = number of different perpetrators

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

operationalization of incest. Table 12.6 presents results for just the outcome variables that had significant main effects or interactions with incest. Main effects were largely the same as for the victim–perpetrator relationship continuum, except that incest was not significantly related to mental health service use. With respect to interaction effects, there were two notable departures from the previous pattern observed for the relationship continuum. First there were fewer moderating effects with respect to threats/force and sexual penetration, when using the dichotomous incest indicator; second, two new moderating effects for drug use emerged. Further analysis of the new interactions for drug use presented a complex picture. Controlling for other CSA characteristics, incest had no effect on drug use among participants reporting more frequent CSA, while it was somewhat protective for participants reporting less frequent abuse ($p < 0.05$). At the same time, among victims reporting multiple perpetrators the incest indicator had a somewhat protective negative trending effect (i.e., more drug use indicated by persons with a history of multiple perpetrators in nonfamily relationships), while there was no association for those reporting only a single perpetrator.

## 12.6 Discussion

The main objective of this study was to examine the relative importance of multiple characteristics of CSA as possible indicators of abuse severity based on their prediction of long-term adjustment among Navy personnel. In particular we wanted to explore the importance of the relationship in which the abuse occurred. In the process of evaluating a new hypothesized CSA victim–perpetrator relationship continuum, several noteworthy findings emerged. First, multiple CSA severity characteristics were positively correlated with the hypothesized continuum. This was notably true for the experience of threats/force during CSA which was positively correlated with higher levels on our relationship continuum, especially for men. Also, higher levels on the continuum were associated with younger age at onset and a greater gap in age between victim and perpetrator. Finally, for women but not men, CSA in relationships higher on the continuum was likely to involve both greater frequency of abuse and more likelihood of sexual penetration.

As has been found in previous research, women reported more severe CSA overall. Again, this was especially the case with respect to the experiences involving the use of threats/force. However, we did find some exceptions to this rule. Although women were generally younger at the time of CSA onset, incidents with older peers began at a younger average age for men. Also, the overall frequency of CSA was higher for women, but men reported more frequent CSA with strangers. These differences may reflect gendered socialization and differences in sexual behavior even among children. Males may learn that sexual exploration is acceptable at younger ages, whereas early sexual activity may not be condoned for females. At the time, more men than women may have construed their CSA experiences with older peers or strangers as exploratory and voluntary. However, this does not indicate

**Table 12.6** Abbreviated table of significant regression results for the 2-category incest indicator

| | Main effects | | | | | | | | Interactions with the Relationship Continuum | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Outcome ($R^2$) | Sex | DI | TF | AO | AD | SP | TO | NP | Sex | TF | AO | AD | SP | TO | NP |
| Posttraumatic stress (0.20) | 0.05* | | 0.09** | | | | | | | | | −0.06* | | | |
| Depression (0.21) | 0.06* | 0.05* | 0.06* | | | | 0.06* | | | | | −0.08** | | | |
| Intrusive experience (0.23) | | | 0.12*** | | | | 0.07** | | | | | −0.07** | | | |
| Defensive avoidance (0.29) | 0.14*** | 0.07* | 0.11*** | | | | | | | | | −0.07** | | 0.05* | |
| Dissociation (0.18) | | | | | | | | 0.07* | | −0.07** | | | 0.05* | | |
| Sexual (0.17) | | | | | | | | 0.10*** | −0.08** | | | | | | |
| Impaired reference (0.17) | | 0.07* | | | | | | | | −0.05* | | | | | |
| Suicidality (0.19) | 0.06* | | | −0.07* | | | 0.10*** | 0.06* | −0.05* | | | | | | |
| Drug use (0.21) | −0.15*** | | −0.06* | | | | 0.06* | | | | | | | 0.05* | −0.06* |
| Self-definition (0.67) | 0.20*** | 0.17*** | 0.19*** | −0.21*** | 0.14*** | 0.19*** | 0.06** | −0.07*** | | −0.08*** | 0.09*** | −0.07*** | 0.06*** | 0.05* | |
| Service use (0.22) | | | | −0.07** | 0.06* | | 0.10*** | | | | | | | 0.06** | |

Note: Only outcomes on which incest had significant effects are included in the table

Main effects were first entered simultaneously in these analyses; subsequently interactions were allowed to enter in stepwise fashion; results are reported at time of entry. Missing values for child sexual abuse characteristics other than incest were replaced with the mean. $N = 1{,}616–1{,}743$

DI = dichotomous incest. TF = experience of threats or force. AO = age at onset. AD = age difference between victim and perpetrator. SP = sexual penetration. TO = total occurrences. NP = number of different perpetrators

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

that minors under the age of 14 actually have the ability to make informed, voluntary choices about sex with a substantially older partner. Also, CSA may have adverse consequences regardless of victims' personal interpretations of their experience (Koss & Dinero, 1988), for example, through the modeling of inappropriate sexual boundaries and manipulative or deceptive behavior by adults.

In multivariate analysis, both our hypothesized victim–perpetrator relationship continuum and a simple dichotomous incest indicator predicted important long-term outcomes. However, these associations were somewhat stronger for men than women with respect to sexual concerns, service use, and suicidality. This may indicate that the particular type of relationship in which CSA occurs is more significant for boys than for girls in influencing some outcomes. The fact that boys are allowed more sexual freedom than girls in US culture may again contribute to this pattern. Culturally aberrant sexual experiences may be linked to poorer outcomes because they make it difficult to develop a coherent individual or sexual self-schema in the aftermath of abuse (Mennen, 1995; Niehaus et al., 2010). The consistent effects of the victim–perpetrator relationship continuum on impaired self-reference and self-definitions of abuse support this conclusion. However, there may be more acceptable ways for boys than girls to reinterpret abusive experiences as voluntary or exploratory as long as those experiences do not represent extreme violations of cultural expectations for sexual relations. Even if this is the case, however, there may be unique consequences associated with assuming responsibility or blame for CSA experiences in order to avoid the stigma of "victimization."

Alternatively, the gender interactions in our analyses may reflect a potential confound in our data. Specifically, same-sex CSA experiences may be related to greater perceived cultural violation, and hence a more severe impact on adjustment. Unfortunately, using SRB data we were only able to identify the gender of familial perpetrators, so this factor could not be included in our analyses. Males were more likely than females to report same-sex CSA experiences with extended family perpetrators (35 % vs. 6 %) and with immediate family perpetrators (70 % vs. 6 %). This is likely because most CSA perpetrators are male, and their predominance may be especially pronounced among parents. Both women (275 vs. 11) and men (24 vs. 12) were considerably more likely to report abuse by fathers than by mothers.

The victim–perpetrator relationship continuum had at least some significant effect on all but one of the psychological outcomes we evaluated (anxious arousal). However, many of its effects were moderated by other CSA characteristics. The experience of threats/force during CSA was a particularly common moderator, and it was independently associated with poor adjustment outcomes. Use of threats/force also was associated with some unexpected results in conjunction with the relationship continuum. Among participants reporting the experience of threats/force during their abuse, having experienced CSA in a more highly ranked relationship category was actually protective with respect to anger/irritability and dissociation. This pattern is not entirely unprecedented, specifically in more severely victimized samples. For instance, in some studies of treatment-seeking victims of CSA, adjustment outcomes have been less severe when the abuse occurred with a parent or caregiver (Kiser et al., 2014; Sadowski et al., 2003).

Overall, the CSA severity characteristics we studied were less helpful in accounting for variability in behavioral adjustment. Furthermore, associations with behavioral adjustment may be somewhat difficult to interpret in this cross-sectional study (Bergen, Martin, Richardson, Allison, & Roeger, 2004), because the direction of effects cannot be verified. This may be a particular concern, for example, in interpreting the complex interaction effects predicting drug use in our comparative analyses with incest. Behavioral "outcomes" such as alcohol and drug use may indicate ongoing engagement in risky behaviors or involvement with delinquent peer groups, factors that may increase the likelihood of early sexual experiences, including victimization. Furthermore, participants with a history of engaging in a general pattern of risky behavior were probably more likely to do so with peers or other acquaintances, or even strangers than with family members. Again, although minors may personally view high-risk behaviors as voluntary, such behaviors are risk factors for multiple adverse outcomes, and much older adolescents and adults who encourage minors to engage in high risk behaviors are clearly culpable.

## 12.7 Strengths and Limitations

This study made use of an unusually large sample of participants reporting CSA experiences to examine differences in the dynamics of abuse occurring within different types of relationships. A major advantage of this large sample was the extent to which we could subdivide participants. This allowed us to compare the nature of CSA experiences separately for men and women across a relatively extensive set of victim–perpetrator relationship categories. The breadth of the data available also made it possible to examine the importance of a varied set of CSA severity characteristics across a broad range of psychological and behavioral adjustment outcomes.

Although original in these respects, this study has some limitations. First, retrospective reports may be biased by poor memory or social desirability. Also, some potentially relevant CSA characteristics such as perpetrator gender and the duration of abuse were not assessed. Another important limitation is that correlational research cannot distinguish antecedents from consequences. In particular, as noted above, we could not determine the extent to which behavioral adjustment problems resulted from CSA experiences or were a preexisting risk factor for abuse. The CSA characteristics most predictive of behavioral outcomes——number of perpetrators and frequency of CSA occurrence——seem likely to play a dual role as antecedents and consequences of CSA. Such bidirectional effects can only be teased apart in longitudinal research. Finally, this study focused on Navy personnel in basic training. The most likely bias inherent in this special population is that the range and severity of trauma outcomes were limited by military screening practices prohibiting persons with severe problems from volunteering. It is possible that the effects of CSA severity may have been stronger in a more diverse population.

## 12.8 Future Directions

It will be important for future research to replicate the findings of this study, and to continue exploring the role of power, intimacy, and perceived cultural violation in abusive relationships. To our knowledge, this is the first study that has considered cultural violation along with power and intimacy as defining dimensions of CSA relationship severity. Cultural violation may ultimately be more unique in the context of other severity characteristics than power or intimacy. The experience of threats/force during CSA is probably closely aligned with power. Therefore, controlling the use of threats/force in our analyses may have accounted for substantial variance along the power dimension. Similarly, younger age of onset and CSA frequency may be somewhat dependent on intimacy; controlling for these characteristics may extract essential variability related to that dimension. In order to verify the unique contribution of each dimension, in future research it will be helpful to ask participants to rate their abusive relationships with respect to each of these dimensions in order to directly evaluate the strength of the associations between each of them and specific characteristics of abuse, as well as different adjustment outcomes.

Our review of the literature regarding the effects of premilitary interpersonal violence on military personnel suggests some additional considerations for research. First, in evaluating the cumulative impact of multiple types of trauma, and particularly combat deployment, on military personnel, it is important to consider the severity of trauma exposures. Unfortunately, studies of the well-being of military personnel must often prioritize content and limit survey length in order to reduce the burden of research on participants. Prioritizing which constructs to assess can be particularly difficult given the large and complex range of factors that may impact overall adjustment. Given these constraints, the present study offers some important guidance regarding the most important aspects of CSA severity to address when time and space are limited. Foremost, our results show that the experience of threats or force during the abuse is a critical indicator of severity and an important predictor of long-term adjustment. When it is only possible to include a single severity indicator, assessing the use of threats or force during CSA, as well as injury resulting from the use of force should be a priority.

Depending on the focus of the research, some studies of adjustment outcomes among military personnel will need to include more detailed assessments of trauma severity. For instance, it may be important to include a range of CSA severity indicators in research on the cumulative impact of multiple sexual victimization experiences. Also, there has been an increasing focus on gender differences in military sexual trauma, and in this type of work the nature of the relationship in which the sexual trauma occurred—both in childhood and in adulthood—may be more important to consider. Our results suggest that there are marked differences in the nature of CSA within different types of relationships, and that these patterns

may be somewhat different based on gender. Furthermore, our data indicate that the nature of the abusive relationship may have a somewhat stronger impact on some outcomes for men than for women.

Finally, in a number of the studies included in our introductory research review, the effects of distal variables such as premilitary interpersonal trauma were best expressed as moderators of more proximal stressors or as mediated predictors of current risk factors (Aversa et al., 2014; Goodwin et al., 2012; Griffith, 2012; Miller et al., 2013; Montgomery et al., 2013; Van Vorhees et al., 2012; van Zuiden et al., 2012). Our results suggest little advantage in using a more complex CSA relationship continuum over a parsimonious incest indicator if only main effects on outcomes are tested. However, if the victim–perpetrator relationship is considered as a moderator, a dichotomous operationalization may be too simplistic. For instance, we found that certain combinations of severity indicators, such as the experience of CSA involving intercourse with an older family member versus an older peer, may have unique implications for long-term adjustment and these relationships may be more apparent using a more detailed operationalization of the CSA victim–perpetrator relationship. Ultimately, a more complex consideration of the relationship in which CSA occurs is necessary to fully understand the long-term implications of this type of abuse.

As military research evolves and becomes more nuanced in modeling the many complex factors that impinge on the well-being of service members, it will be increasingly important to optimally operationalize important constructs. In many ways, the field has just begun the work necessary to do this. For instance, it will be important not only to consider the severity of premilitary experiences of CSA, but also the severity of military sexual trauma experienced during service. Although many subject matter experts have previously posited extensive lists of factors that may increase the severity of military sexual trauma, empirically evaluation has been lacking. The results of this study provide some guidance in choosing among the myriad options available to define the severity of premilitary experiences of CSA. Over time, military researchers have contributed in many important ways in developing the research tools needed to study problems that are uniquely important or prevalent in military populations. In the future, military researchers will certainly continue to take the lead in refining the analytic tools available to operationalize risk factors important in the military context.

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# Chapter 13
# Veteran Mental Health and Employment: The Nexus and Beyond

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**Abstract** In the armed forces, "service" denotes a willingness to "work for" your country, wages, personal recognition of accomplishment, your brothers/sisters in arms, and references the importance of work in the identity of these individuals. Veteran employment and mental health are intricately connected and at times dependent upon each other. As such, focusing on one in isolation is not recommended. To help veterans successfully integrate back into their communities and move toward mental health recovery when needed, a more integrated approach is warranted. In this chapter, we review the state of the literature concerning veteran employment, effects of mental illness on veteran employment, and examine current employment services for veterans. This chapter concludes with a discussion of

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approaches that show promise for addressing the nexus of employment and mental health in veterans, as well as identifying future directions for research to help better mitigate the needs of our veterans.

**Keywords** Employment • Mental health • Psychiatric disorders • Transitional stress • U.S. military • National Guard and Reserves • Veteran • Military families • Female veterans • Vocational rehabilitation • Veterans Health Administration • Psychiatric disorders • Treatment

Employment and the ability to work are important to most people on a number of levels. Employment provides individuals with a sense of purpose and identity, and gives them a means of providing for themselves and others (World Health Organization, 2000). Therefore, the impact of employment can have a significant impact on overall mental health and well-being. Conversely, unemployment can have a devastating impact on an individual's self-esteem, social standing, and financial status, as highlighted during the recent recession (Cooper, 2011). For America's veterans, successful attainment of civilian employment is crucial to re-integration into civilian life. Even under the best of circumstances, this process can be challenging, but it is particularly formidable for those with mental disorders.

This chapter is broken into four sections: (1) Employment, (2) Mental Disorders, (3) Employment Services, and (4) Summary and Future Directions for Research on Veteran Mental Health, Transitions, and Employment. Specifically, in the Employment section we review veteran employment rates, the value of employment, its impact on families, and factors that influence veteran employment experiences. In the Mental Disorder section, we discuss the impact of mental disorders on veteran employment, the effects of stressors associated with military service, and examine specific considerations for female service members and individuals serving in the National Guard or Reserve. The Employment Services section focuses on the benefits and services available to veterans designed to assist with employment, particularly for those with mental disorders, and address veteran preferences and needs for services, and how these services influence veteran employment outcomes. Finally, in the Summary and Future Directions for Research on Veteran Mental Health, Transitions, and Employment section we highlight gaps in research and practice, make recommendations to address these limitations, and expand our understanding of employment outcomes among veterans with mental disorders.

## 13.1 Part 1: Employment

### *13.1.1 Veteran Employment*

The Bureau of Labor Statistics (BLS) Current Population Survey (CPS) defines employment as any work for pay or profit during the reference week pertaining to when the survey is completed. In 2012, the BLS reported that there were

over 21 million male and female veterans in the civilian population (Bureau of Labor Statistics, 2013). Of these, 91.1 % of the Gulf War-era II veterans (those who served on active duty at any point since 2001) were employed, while the overall job rate was 93.0 % for veterans and 92.1 % for non-veterans (United States Department of Labor, 2013). However, when broken down by age group, some significant differences in employment rates become evident. In 2012, the employment rate for veterans age 18–24 was 79.6 %, while that of non-veterans of the same age group was 85 %. The rate for veterans age 25–34 was also higher than the rate for their non-veteran counterparts (90.1 % and 91.8 %, respectively). As the ages increased, the discrepancies decreased. Among those aged 55–64, the employment rate differed by only one-half of a percent (93.6 % for veterans and 94.1 % for non-veterans) (United States Department of Labor, 2013). A recent study using BLS data found no differences in employment between civilians and veterans who have a college degree, but did find differences between veterans and their civilian counterparts who were enrolled in college (Kleykamp, 2013). Furthermore, Kleykamp found that male veterans had a 9.5 percentage point increase over their civilian peers in being enrolled in college.

Rates of employment also tended to be higher for female rather than male veterans. In 2012, 91.7 % of female veterans over the age of 18 were employed compared to 93.1 % of their male veteran counterparts. Employment rates for female veterans tend to be 2–3 % lower than that of their male counterparts for most age groups, with the exception of those aged 35–44 and 55–64 (Bureau of Labor Statistics, 2013). This is in contrast to non-veterans, where women have higher rates of employment compared to men overall (92.3 % vs. 91.9 %), and especially among those aged 18–24 (86.4 % vs. 83.6 %) (Bureau of Labor Statistics, 2013). Kleykamp also found that female veterans had an 11 percentage point increase over their civilian peers in being enrolled in college (Kleykamp, 2013). This may suggest that due to VA education benefits, veterans enrolled in college may have a higher likelihood of not working while enrolled in school than their civilian counterparts, although this conclusion is tentative and would require further examination.

Current or past members of the Reserve or National Guard from the Gulf War era II had a higher rate of employment than non-members of the Reserve or National Guard (92.8 % vs. 86.3 %, respectively) (United States Department of Labor, 2013). These statistics come as no surprise to leaders of the National Guard, who state that the Guard aggressively promotes employment across the country for its members through federal and state programs including assisting members with job searches through resume writing, job fairs, and engaging employers to encourage them to hire Guard members (National Guard Bureau Public Affairs, 2013). Thus, overall employment rates for U.S. military veterans (including Reserve or National Guard Veterans) are lower than those in the general population, but these rates differ by gender and by age group.

### 13.1.2 The Value of Employment

Employment is an important element of social and cultural identity, and provides multiple benefits. Some of the potential benefits associated with employment are daily structure, financial support, skill development and education, job advancement, social support, common focus or organizational goals, and sense of personal identity and accomplishment. A recent meta-analysis of 237 studies examining the effects of employment status on mental health confirmed that unemployment resulted in greater psychological distress (Paul & Moser, 2009). Conversely, employment has been shown to enhance quality of life (Hsiao, Hsieh, Tseng, Chien, & Chang, 2012). Employment has also been associated with greater social support, which has been shown to reduce distress (Creed & Moore, 2006). Indirect benefits of employment may include social and community integration, access to greater social capital, and increased opportunities and resources. Even among people with schizophrenia, a serious mental illness, employment is associated with reduced psychiatric admissions (Drake, Xie, Bond, McHugo, & Caton, 2013). Thus, employment and the associated benefits that come with it are likely important buffers for the transitional or readjustment stresses faced by military personnel post-deployment or post-discharge.

### 13.1.3 The Impact of Veteran Employment on Military Families

Of interest and possible concern is a paucity of research examining the effects of veteran employment, unemployment, and under-employment on veterans' families. Parallels can be made, however, when considering established findings in civilian populations that show an array of possible negative effects associated with unemployment on family adjustment (Broman, Hamilton, & Hoffman, 1997; Conger et al., 1990). In civilian populations, unemployment has been linked to higher rates of marital stress and conflict (Grayson, 1985; Hakim, 1982; Hansen, 2005), as well as elevations in family violence (Straus, Gelles, & Steinmetz, 1980). Divorce and contemplation of divorce are also associated with economic hardship and unemployment (Conger et al., 1990). In a longitudinal study following auto workers, financial hardship associated with unemployment accounted for negative effects on family relationships, such as increased spousal and child conflicts (Broman et al., 1997). There are clear financial, social, self-esteem, and long-term benefits of employment that have positive spillover effects on family and family adjustment. There are also differential benefits of employment and its effects on both individuals and families depending on the type of employment. For example, jobs with low pay and limited decision latitude may be detrimental to individuals and families, while jobs with high pay and a lot of decision latitude will have more positive effects. This suggests that for veterans facing unemployment, marriages may be stressed and at risk of dissolution, especially for families experiencing significant financial strain.

Unemployment changes the way a family lives, with practical impacts on day-to-day life for children and adults. The financial impact of unemployment translates to fewer financial resources, thus altering the lifestyle of families (Lobo & Watkins, 1995). Families may be forced to move homes, give up transportation, withdraw children from sports or extracurricular activities, or limit basic needs. Unemployment can also lead to interruptions in healthcare coverage, changes in household routines, or changes in work patterns (e.g., increased hours of work for one parent) and familial roles (e.g., veteran taking on care giver role for family). This is consistent with changes observed in samples of unemployed civilians (Binns & Mars, 1984; Kilpatrick & Trew, 1985; Liem & Liem, 1988), showing role changes resulting in the unemployed individual assuming more household and parenting responsibilities. For military families who have experienced multiple disruptions associated with deployment, these cumulative stressors may be particularly detrimental. As discussed by Sayers, family reintegration is affected by multiple factors related to (1) pre-deployment factors (e.g., relationship among family members, financial status, support, etc.), (2) deployment-related factors (e.g., shift in the spouse's roles, deployment duties, or experience of the service member, etc.), and (3) reintegration factors (e.g., injuries sustained as a result of deployment, renegotiation of family roles and responsibilities, employment, etc.) (Sayers, 2011). This increased domestic involvement of the veteran could be both beneficial and risky for the veteran's spouse and/or children depending on how changes in roles are negotiated within the family. Greater domestic roles for veterans with major depression or PTSD are also at greater risk for feelings of detachment from their family (Sayers, Farrow, Ross, & Oslin, 2009), which may increase isolation, conflict, and distress within the family unit.

Families are an important consideration when seeking to understand and intervene with veteran employment circumstances. In addition to the negative psychological effect on veterans, unemployment challenges families through stresses on marital relationships and the practical lifestyle alterations that necessarily come with unemployment. Family stress and responsibilities are likely heightened in unemployed veterans and should be closely monitored. Better understanding of the impact of unemployment on veteran families is a critical area of future research.

### *13.1.4 Factors Associated with Veteran Employment*

Several sociodemographic factors have important influences on veteran employment status and circumstances. Age has been shown to influence employment outcomes for veterans, with younger veterans showing decreased likelihood of being employed compared to older veterans (Bureau of Labor Statistics, 2013). One explanation for this relationship centers on the fact that younger veterans have less education, experience, and skills than older veterans, which may limit their appeal to prospective employers.

Higher military rank, education, and socioeconomic status are associated with better employment outcomes among veterans. Conceivably, these factors may afford veterans with more skills, resources, and social capital, potentially affording greater

employment opportunities than their younger and less experienced counterparts. A large survey examining civilian employment outcomes following a recent deployment among active duty and National Guard/Reserve members found unemployment was more prevalent among younger veterans (Horton et al., 2013). Specifically, the highest rates of unemployment were observed among veterans discharged before the end of their service contract, followed by those who completed their service contacts. Main reason for premature discharge was disability (48 %) followed by pregnancy/parenting (12.5 %). Retirees had the lowest unemployment rates (Horton et al., 2013). Among those who completed their service term, being young, black or Hispanic, female, and experiencing moderate stress predicted unemployment (Horton et al., 2013). Despite identifying risk factors for unemployment, this study failed to find any impact of deployment experience on subsequent employment.

### *13.1.5 Transitional Stressors and Employment*

There are a number of factors that can affect employment among veterans. Throughout their military service, individuals experience a number of transitions; they transition from civilian to military service and back again, with numerous life changes along the way. Transitions are more common among National Guard/Reserve members. These stressors encompass a variety of life changes, such as relocating one's self and family, conforming to new rules and regulations that govern behavior, changes in social support, structure, supervision, and responsibility. Aside from the enormous changes that occur during entry into military service, post basic military training also requires continued changes and transitions (e.g., technical school, permanent duty station, deployment, promotion). Transitioning into the military has been shown to result in high levels of perceived (Martin et al., 2006) and biological stress, as indexed by mean levels of waking cortisol (Clow et al., 2006). The impact of this initial transition results in approximately 10–12 % of recruits separating from military service prior to 6 months (Buddin, 1985; Gebicke, 1998), with a third separating before the completion of their initial service contact (Gebicke, 1998). Due to the nature of the changes required by individuals entering into the military, those with limited coping resources may experience a reduction in their ability effectively manage stress, which can negatively impact interpersonal relationships, overall mental health, and possibly subsequent employment. This is eventually followed by the transition back into civilian life, where they must now figure out how to fit back into society as a veteran, participate in the workforce, and readjust to civilian life.

The transitional nature of military service and potential challenges with coping effectively with these transitions can have a negative impact on service members' mental health and employment outcomes. From a diathesis-stress perspective, individuals possess a certain capacity for handling stress and once it is surpassed, mental health symptoms will likely develop. If the stress is not reduced or effectively

managed overtime, it results in an increased risk for developing a mental health condition (Burns & Machin, 2013). How mental disorders affect subsequent employment among veterans is discussed next.

## 13.2 Part 2: Mental Disorders

### *13.2.1 Employment Among Veterans with Mental Disorders*

Rates of employment among veterans with mental disorders vary widely depending on the disorder and its severity. In their study, Zivin et al. found that among VA patients aged 18–64, only 12 % of those with depression were employed, while 20 % were unemployed, 24 % were students or homemakers, 27 % were disabled or unable to work, and 15 % were retired (Zivin et al., 2011). The unemployment rate for veterans with PTSD has been reported to be between 10 and 50 % (Chan, Cheadle, Reiber, Unutzer, & Chaney, 2009; Zivin et al., 2011), with those experiencing more severe symptoms being more likely to work part-time, or not at all. Employment rates among veterans aged 18–64 with a substance use disorder are 20 %, with unemployed veterans being twice as likely as employed veterans to have a substance use disorder (Zivin et al., 2011). For people with severe mental illnesses such as schizophrenia and bipolar disorder, employment rates were approximately 22–40 %—remarkably lower than employment rates in the general population (Jans, Stoddard, & Kraus, 2004; Sturm, Gresenz, Pacula, & Wells, 1999). Unfortunately, few data are available regarding employment rates among veterans with severe mental illness, specifically. Not surprisingly, however, the aforementioned studies suggest this population faces low rates of employment.

Although we do not have directly comparable data between rates of employment status among veterans and non-veterans with mental disorders, we know that veterans who use the Veterans Health Administration (VHA) for health care (i.e., VA patients) are less likely to be employed than either veterans in the U.S. population or the general U.S. population as a whole (Zivin et al., 2011). This is in part related to the high prevalence of mental disorders among VA patients. For example, a large representative study of working-aged (18–64 years old) VA patients recently found that 19 % had depression, 15 % had PTSD, 7 % had a substance use disorder, 7 % had anxiety, 4 % had schizophrenia, and 3 % had bipolar disorder (Zivin et al., 2011). In this study, VA patients with psychiatric diagnoses of schizophrenia, bipolar disorder, posttraumatic stress disorder (PTSD), depression, or a substance use disorder were more likely to be unemployed, disabled, or retired than employed (Zivin et al., 2011). A separate survey of veterans with psychiatric diagnoses that used VHA services within the past year found that only 15.3 % were employed (Hepner et al., 2010). Thus, there is substantial room for clinical and policy research and interventions regarding how to improve employment circumstances for veterans with mental disorders.

### *13.2.2 Links between Transitional Stress, Mental Health, and Employment*

Transitions are common within the military and are successfully navigated by most that serve, but with the increased frequency and duration of deployments, transitional or readjustment factors play a significant role in service member psychosocial functioning and risk for developing a mental health condition. Transitional factors include pre-deployment preparation (e.g., financial, family, employment/school arrangements, etc.), events occurring during deployment (e.g., financial, housing, employment, family events), and post-deployment reintegration, appear to play an even larger role for National Guard/Reserve members as well as female service members. As a result, increased emphasis has been placed on assisting with transitional and readjustment issues both pre- and post-deployment to help individuals successfully transition to civilian life. However, more research is needed to address the impact of transitional readjustment issues on mental health and employment, particularly examining how these interactions can inform new interventions and improve existing services to help service members transition more fluidly into civilian life.

There is considerable evidence showing the negative impact of military deployments on mental health, substance use (Eisen et al., 2012; Shen, Arkes, & Williams, 2012; Thomas et al., 2010; Vasterling et al., 2010), social functioning, and community integration (Sayer et al., 2010). In a large population-based study, Hoge et al. found that Army and Marine personnel within a year of a recent combat duty deployment was associated with greater mental health service utilization and early separation (Hoge, Auchterlonie, & Milliken, 2006). High rates of mental health and substance use issues are well established in service members who were deployed during the Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF), and Operation New Dawn (OND) missions (Bagalman, 2013). Research has identified transitional or readjustment factors as major contributors of risk which are compounded by deployment-related experiences or stressors. Service members diagnosed with one or more mental health conditions have reported more transitional and readjustment challenges (e.g., interpersonal difficulty, impaired work performance, financial security, self-care, etc.) following deployment (Tsai, Harpaz-Rotem, Pietrzak, & Southwick, 2012; Vasterling et al., 2010). These transitional or readjustment issues were also cited by service members as primary reasons for seeking mental health treatment (Sayer et al., 2010).

A recent study of combat Marines surveyed prior to and 6 months following separation found that mental health and functional problems were associated with greater physical pain, perceived stress, and less social support at the 6-month follow-up (Hourani et al., 2012). Another study provided qualitative support for the importance of transitional or readjustment factors affecting reintegration with life at home. In this study, service members identified problems connecting with civilians and reduced access to social support from peers as important factors that result in greater distress and isolation (Demers, 2011). Additionally, reported changes in

personal identity as a service member with purpose, clear roles, and responsibility, to a civilian resulted in a diminished sense of self-esteem and value (Demers, 2011). Furthermore, these transitional or readjustment issues were reported as larger barriers for veterans than service members, conceivably due to not having social support from peers. Employment may provide a bridge to buffer these transitional issues by providing structure, clear roles, responsibility, and a social support focused on a common mission.

Despite the general impact of transitional or readjustment factors on service member's reintegration, risk of mental and physical health consequences appear to be more pronounced in female (Patten & Parker, 2011; Street, Vogt, & Dutra, 2009) and National Guard/Reserve members (Gorman, Blow, Ames, & Reed, 2011; Harvey et al., 2011; Milliken, Auchterlonie, & Hoge, 2007; Thomas et al., 2010).

### *13.2.3 Employment Issues Specific to Female Veterans*

Female service members have a growing presence in the U.S. military, comprising approximately 16 % of commissioned officers and 14 % of the enlisted force (Joint Economic Committee, 2007; Patten & Parker, 2011). Nearly half of the active duty service women are married, and were in lower enlistment pay grades (e.g., E-1 to E-4) when they had their first child (Joint Economic Committee, 2007). Of those who were married, half are married to another service member where both are eligible for deployment, and another 12 % are single parents (Joint Economic Committee, 2007). As such, service women are burdened with additional pre- and post-deployment transitional or readjustment issues (e.g., child care, access to adequate health care, child–mother separation–reintegration, financial, etc.) and have reported greater transitional or readjustment difficulties (Beder, Coe, & Sommer, 2011; Mattocks et al., 2012). Research supports the negative impact of transitional or readjustment factors on the development of mental health issues among women (Street et al., 2009). A recent study examining predictors of developing mental health conditions and functional impairment following separation from the Marine Corps found that women were at increased risk of developing depressive symptoms (Hourani et al., 2012). Furthermore, being female, having higher combat exposure, lower baseline resilience, increased pain or stress, and reduced social support were associated with more chronic mental health issues and functional impairment (Hourani et al., 2012). Another study examined changes in pre- and post-deployment stressors among women serving in the National Guard. Their results highlighted an important shift from deployment-related stressors pre-deployment to more reintegration stressors up to a year post-deployment. In particular, interpersonal stress was cited most frequently and appeared to remain high at the year follow-up (Yan et al., 2013). Other transitional issues related to employment were also frequently cited. For example, female service members experience increased pressure to manage issues at home and abroad, which can negatively impact their functioning and health, both at home and on the job.

### *13.2.4 Employment Issues Specific to National Guard and Reserve Members*

National Guard and Reserve members face a variety of transitional and readjustment issues not commonly experienced by active duty service members. Studies have found higher rates of mental health conditions (Milliken et al., 2007; Thomas et al., 2010) and suicidal ideation (Calabrese et al., 2011; Kline, Ciccone, Falca-Dodson, Black, & Losonczy, 2011; Lane, Hourani, Bray, & Williams, 2012) among National Guard and Reserve members. However, one recent study found that while the mental health status of Guard members may not be strongly associated with initiating civilian employment, better mental health was associated with full-time as opposed to part-time employment (Burnett-Zeigler et al., 2011). National Guard and Reserve members also tended to be older, more educated, married, and have more established family and civilian career roles (Interian, Kline, Callahan, & Losonczy, 2012; Lane et al., 2012). As such, these service members must navigate between transitioning from their civilian job to their military service job, and vice versa, which may result in changes in health insurance benefits and reductions in pay (Hoshmand & Hoshmand, 2007). Additionally, issues related to child and family care, health insurance, potential reduction in pay, and job insecurity are stressors not experienced by their active duty counterparts. Issues with pay disbursement and payment of bills are concerns that may increase distress in the service member and their associated family. A recent study investigating readjustment stressors on rates of suicidal ideation in a sample of New Jersey National Guard members at a 3-month reintegration event found that approximately half reported multiple readjustment stressors (Kline et al., 2011). Specifically, worsening of employment status (16 %), serious financial concerns (15 %), lost job/business (11 %), separation/divorce (11 %), and problems paying mortgage (7.5 %) were among the most frequently cited. Having three or more readjustment stressors resulted in about a sixfold increase in risk of having suicidal ideations (Kline et al., 2011). Another study found that unit support and post-deployment social support were inversely associated with both depressive and posttraumatic stress disorder symptoms in a sample of National Guard members (Pietrzak et al., 2010). Due to the nature of the National Guard/Reserves, there is typically less unit cohesion and support for the returning service member or their family during or after deployment, at least relative to active duty forces (Hoshmand & Hoshmand, 2007). Planning for and accessing affordable childcare during deployment is another stressor of considerable concern for National Guard and female service members (Joint Economic Committee, 2007). In particular, establishing affordable childcare and managing loss of income when transitioning to active duty status can be significant stressors for service members and their families. Transitional stress has also been found to effect employment-based outcomes.

There is clear support that transitional or readjustment stress is related to the risk of developing a mental health condition and experiencing impaired functioning (Sayer et al., 2010; Tsai et al., 2012; Vasterling et al., 2010). One study confirmed that loss of valued resources across family and social relationships, financial matters, career, and

personal matters predicted increased PTSD symptoms and lower levels of perceived health (Hobfoll, Vinokur, Pierce, & Lewandowski-Romps, 2012). Further, the amount of stressors predicted greater loss of resources. Loss of resources partially mediated the effect of stressors on PTSD, and fully mediated the effect of stress on physical health (Hobfoll et al., 2012). The relationship between mental health and employment is also well established, such that increased mental health problems were associated with negative impact on employment-based outcomes (Adler et al., 2011; Cohen, Suri, Amick, & Yan, 2013) and occupational functioning (Erbes, Kaler, Schult, Polusny, & Arbisi, 2011). Thus, focusing on employment among recently returning veterans with mental disorders is an important concern for overall health and well-being of veterans. In particular, providing a nuanced examination of various types of employment focusing on degree of perceived control, level of pay, and skill, has been found to effect employment outcomes in the general population.

## 13.3 Part 3: Employment Services

### *13.3.1 Veteran Employment Supports and Benefits*

All veterans receive a number of benefits and assistance related to employment and education, including disability compensation (if applicable), vocational rehabilitation, and GI education benefits. The Veterans Benefits Administration (VBA; the benefits arm of the Department of Veterans Affairs) provides tax-free monthly disability compensation to veterans in recognition of the effects of the injuries, diseases, or disabilities they acquired as a result of their active military service or to the families of veterans who died during their service. These can be related to either physical or mental disabilities, so long as they were a result of active duty. The amount of their benefit is graduated based on the degree of their disability, from 10 to 100 %, referred to as a percent of service-connected disability (Department of Veterans Affairs). In 2008, nearly 17 % of civilian veterans reported having a VA service-connected disability, with 17.9 % of those with a service-connected disability having 70 % or higher disability rating (Erickson & von Schrader, 2008). In 2012, 28 % of Gulf War era II veterans and 14 % of all veterans reported a service-connected disability (United States Department of Labor, 2013).

The Vocational Rehabilitation and Employment (VR&E) Program is a program within the VBA which assists veterans who have service-related injuries (10 % service-connected disability broadly defined) with their goals of finding suitable employment or their ability to function independently at home and in the community (Department of Veterans Affairs, 2014). Veterans with disabilities frequently use both disability compensation and vocational rehabilitation. While both have similar goals, they may also result in conflicting incentives for the veteran. First, benefit compensation may reduce the financial incentive to seek employment, and second, they could run the risk of losing certain benefits through earning income, thus reducing their motivation to seek and participate in competitive employment (Drew et al., 2001).

Drew et al. recently found that veterans enrolled in a compensated work therapy program who were receiving disability compensation worked fewer hours weekly in their work therapy program, earned less income, had a higher dropout rate, and were less likely to be competitively employed at discharge. Thus, one of the unintended consequences of disability benefits is the potential discouragement of full participation in their vocational rehabilitation, resulting in poorer employment and rehabilitation outcomes (Drew et al., 2001).

To address employment-related needs of veterans with severe and other mental illnesses, specifically, the Veterans Health Administration (the healthcare arm of the Department of Veterans Affairs) offers a variety of services through the Therapeutic and Supported Employment Services Programs (Department of Veterans Affairs, 2011). The defined scope of the VHA policy regarding these programs is "All veterans in VHA mental health treatment programs who are interested in developing work skills … regardless of their psychiatric diagnosis, work history, or cognitive impairment" (p. 2). Five distinct employment services are available to meet the needs of veterans who are interested in obtaining competitive employment as well as needs of veterans who are interested in improving work skills, but not necessarily competitive employment. VHA employment services include Incentive Therapy (IT), Sheltered Workshops (SW), Transitional Work (TW), Supported Employment (SE), and Vocational Assistance (Voc Assist). A brief description of each option is provided in Table 13.1 and additional details can be found at the following VHA website: http://www.va.gov/HEALTH/cwt/veterans.asp.

Notably, among all available services, only SE and TW have the explicit goals of assisting veterans in obtaining competitive employment, which is defined as a permanent job in the community. All other employment services are pre-vocational, meaning they focus on preparing veterans for employment or providing them with opportunities to improve work-related skills, without necessarily assisting them in obtaining competitive employment. Of the employment services offered, only SE is considered an evidence-based practice (Campbell, Bond, & Drake, 2011; Twamley, Jeste, & Lehman, 2003) due to its ability to actually increase rates of competitive employment among individuals with severe mental illness, specifically. Because of the established evidence, in VHA SE services are generally targeted toward veterans with severe mental illnesses. However, a recent randomized control trial suggests SE may also benefit veterans with other mental illnesses. In this trial, Supported Employment increased rates of competitive employment, income, and number of weeks worked among veterans with PTSD compared to standard vocational rehabilitation, which included IT, Voc Assist, or TW (Davis et al., 2012). Unfortunately, there is no research to support the efficacy of the other employment services offered by VHA. In fact, the single randomized trial of TW conducted in a sample of veterans with substance use disorders and non-psychotic mental illnesses found TW did not increase rates of competitive employment relative to a standard job placement services (Penk et al., 2010).

In an effort to better understand the extent to which the population of veterans with mental illnesses who receive VHA mental health services is able to access employment services, we recently examined whether VHA patients with psychiatric diagnoses received any employment services (IT, TW, Voc Assist, or SE) in a given year. Although we found some variation based on psychiatric diagnosis, overall only 4.2 % of veterans

**Table 13.1** Employment services for veterans with mental illness provided by VHA (Milliken et al., 2007; Tsai et al., 2012)

| Type of service | Goal of service | Description of work and pay | Policy regarding Availability |
|---|---|---|---|
| Sheltered Workshop | To "evaluate and develop basic worker traits, habits, and attitudes, such as working cooperatively with others, accepting supervision, timeliness, attention to detail, and other factors appropriate for work and optimal community integration" (p. 3 handbook). SW is a pre-vocational activity that takes place at the VA and characterized by a high degree of supervision by VA clinical staff. Sheltered Workshops are targeted toward individuals with severe disabilities. | Veterans are paid on a piece-rate basis. Work generally includes assembly, packaging, fabrication (e.g., printing business cards, engraving). | Sheltered workshops are not mandated by VHA policy, but as of December 2011, they remained in approximately 35 VA Medical Centers. |
| Incentive Therapy (IT) | To "provide severely disabled Veterans with work hardening activities" (p. 6 handbook). Incentive Therapy is considered a pre-vocational activity that allows opportunities to assess veterans in an environment that is more independent than a Sheltered Workshop, yet still within a VA medical center. | Veterans are assigned to full- or part-time work within a VA medical center (e.g., light cleaning, escorting patients to VHA appointments, folding items) for 1–8 h per day, depending on individual work stamina and treatment goals. Veterans are paid hourly, and maximum hourly pay is half the Federal minimum wage. | IT is not mandated by VHA policy, however, "… has a long tradition within VA." (p. 6) |
| Transitional Work (TW) | The goal of Transitional Work is "to enable participants to gain work experience and work hardening" and "to provide supports and resources needed for a Veteran to successfully transition into and be successful in competitive employment" (p. 2, 6 handbook). Transitional work is considered a pre-vocational activity that provides opportunities to participate in actual work settings both within and outside VA Medical Centers. Work placements are not competitive employment, and are reserved for Transitional Work program participants. | Veterans are paid hourly and pay is determined by performance and existing wage rates for similar work. Minimum base pay is determined by state or Federal minimum wage, whichever is higher. Work assignments exist in various settings including National Cemeteries, Federal Record Centers, in VA Medical Centers, and local community businesses. Work assignments are varied and may include janitorial, housekeeping, food service, grounds maintenance, etc. | VHA policy states Transitional Work is offered at all VA Medical Centers. |

(continued)

**Table 13.1** (continued)

| Type of service | Goal of service | Description of work and pay | Policy regarding Availability |
|---|---|---|---|
| Vocational Assistance (Voc Assist) | Vocational Assistance is not a work activity in and of itself, but is defined as "a set of assessment, guidance, counseling, or other related services … designed to enable veterans to realize skills, resources, attitudes and expectations needed to prepare for searching for employment, succeeding in the employment interview process, and succeeding in employment" (p. 2 Handbook). These services can be delivered to individual veterans or groups of veterans. | Not Applicable | Vocational Assistance, specifically, is not mandated by VHA policy |
| Supported Employment (SE) | The goal of Supported Employment is to assist veterans with severe mental illness (e.g., schizophrenia, bipolar disorder, other psychoses) with attaining full- and part-time competitive employment in the community. Supported Employment is evidence-based and includes a high level of integration of between vocational staff and mental health staff and the provision of ongoing job supports that are continued as long as an individual needs them, not terminated once the individual is employed. | Work obtained through Supported Employment takes place in the community. Veterans are free to choose employment that suits their individual interests, needs, and abilities, and are employed in jobs that are available to anyone. | VHA policy states Supported Employment is offered at all VA Medical Centers. |

with mental illness received one visit of any employment service in VA fiscal year 2010, and only 1.9 % received four visits or more of a single type of employment service (Abraham, Ganoczy, Yosef, Resnick, & Zivin, in press). Additionally, TW and Voc Assist (neither of which have been demonstrated to successfully improve employment rates) were the two most commonly accessed services. These findings in the context of low rates of employment and a documented need for employment services suggest that a substantial number of veterans with mental illnesses may not receive adequate support to address their employment needs. Importantly, data suggest that in VA fiscal year 2011, employment programs provided services to more veterans than in fiscal year 2010 (Campinell, 2011). Yet, further investigations are needed to evaluate the extent to which the available VHA employment services adequately address the needs of the population of veterans with mental illnesses. Similarly, research is needed to determine whether the available services are sufficient to meet the defined scope of VHA Policy regarding Therapeutic and Supported Employment Services Programs which seeks to provide employment services to all veterans who receive mental health services and are interested in developing work skills or seeking employment.

It is important to acknowledge that outside of VHA, there are a number of other programs that exist at both a national and community level to support the education and employment endeavors of veterans seeking jobs. These programs are not targeted specifically to address the needs of veterans with mental disorders, though certainly veterans with mental disorders may access them. Educational benefits are available to veterans who wish to further their education following their service through the GI bill. The Post-9/11 GI-Bill provides financial support for education to individuals who served for at least 90 days after 2001. The bill will provide up to 36 months of education benefits for graduate or undergraduate degrees, vocational, flight, on the job, or entrepreneurship training, among others, available for 15 years following the end of their active duty. The benefits will generally pay the full tuition fees for the school, in addition to a monthly housing allowance, a stipend for books and supplies, and a one-time rural benefit payment (Department of Veterans Affairs, 2013). A number of programs also exist to assist veterans seeking employment in the community not as part of VA vocational rehabilitation programs. One example is VetSuccess, a website which allows veterans to browse job listings, post resumes, and apply for positions directly on the site. Many other programs exist at a community and state level to support and encourage veterans returning to the workforce.

### *13.3.2 Preferences and Needs for Employment Services for Veterans with Mental Disorders*

Various studies and evaluations of VHA's mental health services highlight the need for employment services for veterans experiencing mental disorders. For example an independent VHA evaluation found VHA patients with mental health needs want employment services, but are not receiving them as desired (Hepner et al., 2010). Another study reported that 500,000 VA patients were unemployed and potentially in need of services in 2008 (Greenberg & Rosenheck, 2009), while another found that

only 3.5 % of patients received any type of VA vocational services (Drebing et al., 2012). Moreover, 10.5 % of veterans with psychiatric diagnoses reported needing assistance finding a job of which veterans with bipolar disorder were most likely to report this need (Hepner et al., 2010). Yet, a review of medical records found that although 61.8 % of veterans with a new mental health treatment episode had an initial assessment of their employment status and needs, only 28.2 % of those who had a documented need for employment services were actually offered such services (Farmer et al., 2010). Finally, the independent evaluation found that in VA fiscal year 2007 only 1.9 % of veterans with schizophrenia, bipolar disorder, or another psychotic disorder were enrolled in Supported Employment (SE), an evidence-based practice designed to assist people with serious mental illness in obtaining competitive employment (Altarum Institute, 2010). Although not all veterans use the VHA, the available data suggest that among veterans with mental illness that use VHA, there is a need for access to services that address employment issues.

### *13.3.3 Employment Outcomes following Interventions for Veterans with Mental Disorders*

While there is clearly a desire and need for veteran employment services, whether or not treatment for their mental disorders alone will improve their employability is also in question. A recent study found that among veterans receiving substance use treatment from the VA there was a 7 % increase in those who were working following treatment. At intake, only 28 % reported any earnings or days of paid work in the previous 30 days, while 35 % reported days of paid work at their follow-up. Veterans who had co-occurring anxiety or other medical conditions were less likely to have earnings than those without these comorbid psychiatric conditions (Humensky, Jordan, Stroupe, & Hynes, 2013). Another study found that veterans with PTSD who experience reductions in their PTSD symptoms may experience subsequent gains in employment (Smith, Schnurr, & Rosenheck, 2005). Among veterans with depression, Zivin et al. found that improvements in depression were associated with an increased probability of employment over 7 months (Zivin et al., 2012). Thus, it appears that improving one's mental health could lead to subsequent improvements in employment and in turn overall well-being.

## 13.4 Part 4: Summary and Future Directions for Research on Veteran Mental Health, Transitions, and Employment

Although challenges and unmet needs for veterans with mental disorders regarding employment remain, there are some clues as to important next steps for policy and research. In general, a remarkably small amount of research has focused on understanding and addressing the employment-related needs of American's veterans. As

we have reviewed in this chapter, veterans are not a monolithic group of individuals and the rates of employment among veterans differ based on age, gender, and branch of service. National Guard/Reserve members, female veterans, veterans with families, and veterans with diagnosable mental disorders each face unique challenges pertaining to military transitions, employment, and mental health. It is imperative to understand the unique employment-related needs of these various groups of veterans before such needs can be adequately addressed. Research that considers the specific employment-related needs of veterans with different characteristics and experiences is sorely needed. In addition, research is needed to assess the effectiveness of different types of employment services for different groups of veterans. Consistent with the review of research we provided in this chapter, Van Til et al. (2013) recently reviewed research regarding work transitions for veterans with mental disorders and concluded that knowledge is limited regarding the best techniques for successfully integrating veterans with mental health disorders back into employment following a long absence. We fully concur with the conclusion of Van Til et al. that the links between transitional or readjustment stress on mental health and employment suggest an important area in need of additional research and clinical intervention for both veterans and their families.

An approach that may help improve employment-based outcomes in veterans, especially those who have, or are at risk for developing mental health disorders comes from the literature on Mental Health Literacy (MHL). Jorm and colleagues (1997) define MHL as "knowledge and beliefs about mental disorders which aid their recognition, management or prevention." The focus of MHL is to pair increased knowledge with action both for the individuals as well as the supports around the individual (Jorm, 2012). One approach to enhancing MHL is called Mental Health First Aid (MHFA), which is a training course that teaches nonprofessionals to provide assistance to individuals who are developing a mental health disorder or are in crisis until they are linked with professional treatment (Kitchener & Jorm, 2008). Research on MHFA has been favorable showing increases in knowledge, helping behaviors, confidence in providing the correct assistance, and a decrease in stigmatizing attitudes (Jorm, 2012). One study examined MHFA in the workplace, finding the group randomized to the MHFA training group's beliefs about treatment were more similar to mental health professionals, had greater confidence in providing help, were more likely to advise individuals to seek professional help, had decreases in stigmatizing beliefs about individuals with mental health disorders, and demonstrated improved mental health than those randomized to the waitlist control (Kitchener & Jorm, 2004). Research is needed to determine whether MHFA may be able to assist veterans in maintaining or obtaining employment. Certainly, MHFA may be a promising approach for veterans or National Guard/Reserve members who may be at greater risk of developing mental health disorders or may be coping with a variety of transitional stressors. Increasing knowledge of mental health disorders, signs and symptoms, while increasing workplace support and reducing stigma may help veterans seek assistance sooner. LaMontange and colleagues (2007) suggest a systems approach with three main areas of intervention: Primary (Employer-level), Secondary (Employee-level), and Tertiary (Treatment/Rehabilitation-level). This approach seems very promising and is partially being done (Secondary and

Tertiary-level interventions), but only for veterans and National Guard/Reserve members who seek assistance through the VHA. The Primary tier would be difficult to implement across the wide range of employers and would likely be possible for large employers but less so for smaller companies. It is unclear however whether these strategies can be used to help facilitate employment or military transitions for veterans who are not employed and struggling.

Finally, although data obtained from the VHA can provide useful information regarding the employment-related needs and employment services accessed by veterans with mental disorders, it is important to note that many veterans do not use VHA services. Thus, even when valuable information is gained through VHA data sources, it may not generalize to veteran populations who do not use VHA services. A critical area of future research includes surveying VHA-using and non-VHA-using veterans in order to determine whether specific employment needs vary by age, gender, branch of service, psychiatric diagnosis, or cohort of service (e.g., Gulf War I, OEF/OIF/OND).

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# Chapter 14
# The Role of the Military Family in the Rehabilitation and Reintegration of Ill and Injured Service Members

**Sanela Dursun and Julie Coulthard**

**Abstract** It has long been known that social support plays an important role as a protective factor for traumatic stress and associated psychopathology, but there are many unanswered questions about specific aspects of social support that may impact recovery following injury/illness. The present study examines the impact of illness and injury on serving members' family relationships and explores the impact of these relationships on their recovery and rehabilitation. Analyses of data based on injured members' reports indicate that the role of spouses was found to be critical in initial recognition of the members' illness/injury and in motivating military members to seek help. Furthermore, the specific factors that may impede the spouse's ability to provide adequate support were identified. These findings provide important information for planning early intervention strategies that incorporate spouses of ill/injured service members in order to reduce the negative impacts of injury on the marital relationship and to enhance the spouse's ability to provide health-enhancing support.

**Keywords** Ill/injured military members • Military partner/spouse • Spousal support • Relationships • Recovery

## 14.1 Introduction

Military spouses face a number of unique stressors as they attempt to meet the demands placed upon them by the military institution. Aspects of military life that can influence the well-being of family members include frequent relocations, temporary housing, spousal unemployment and underemployment, separations, deployments to hostile situations, and long and often unpredictable work hours. Any combination of these factors may be a source of stress for military families. Perhaps the most significant of these

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stressors are those related to operational deployments (Westhius, 1999). Military deployments and duty-related separations are defining experiences for military members and their families. Deployments increase the risk of combat exposure and often impose a number of psychosocial stressors, which have resulted in a growing number of health problems among previously deployed military personnel.

The recent combat mission and current training mission in Afghanistan have posed unique challenges to the Canadian Armed Forces (CAF). Thousands of soldiers have been physically wounded and many suffer from mental health problems. It is likely that more cases of disorders, such as posttraumatic stress disorder (PTSD), as well as the long-term effects of injuries, such as traumatic brain injury (TBI), will become apparent over time. Injuries that result in long-term changes in behavior or abilities can seriously challenge marriages, propelling the spouse into a care-giving role, increasing the risk of depression and other psychological problems. Although these effects have not been studied extensively in the military population, data on marital satisfaction in civilian populations suggest that psychiatric illnesses adversely affect personal relationships and pose a higher risk of divorce (Whisman, 2007; Wood, Liossi, & Wood, 2005). Further, some research with the military population has identified many negative effects of the members' traumatic experience on family life (e.g., Dekel & Solomon, 2006; Ray & Vanstone, 2009; Solomon, Debby-Aharon, Zerach, & Horesh, 2011).

Stressful experiences can have a negative impact on mental health and well-being. It has been recognized that many health issues may result in emotional numbing and anger, which can push family members away (Ray & Vanstone, 2009). The withdrawal of support by family members can increase the manifestation of symptoms, such as emotional numbing/avoidance and anger, which could create a struggle for healing from trauma. Disruption in the family relationship causes further psychological turmoil for members during recovery from illness/injury. To examine the impact of illness and injury on serving members' family relationships and to explore the impact of these relationships on their recovery and rehabilitation, the current study was conducted with ill and injured members of the Canadian Armed Forces who were undergoing treatment as part of the CAF's Return to Work program.

### *14.1.1 Role of Social Support on Well-Being*

Supportive relationships have been viewed as a coping resource, enhancing an individual's well-being in the face of stressful experiences (Wills, 1985). Social support can be defined through the number or quality of support behaviors that the individual receives (defined as received support). It can also be thought of as the individual's perception of the general availability and adequacy of the support provided (defined as perceived support) (Sarason, Sarason, & Pierce, 1990). Studies comparing measures of received versus perceived support have indicated that perceived support correlates more strongly with mental and physical health outcomes

than does received support (Barrera, 1986; Dunkel-Schetter & Bennett, 1990; Sarason et al., 1990; Wethington & Kessler, 1986). Furthermore, it has been suggested that received support may improve outcomes only if it modifies perceived support (Haber, Cohen, Lucas, & Baltes, 2007).

The contention that received support predicts outcomes less consistently than perceived support has contributed to the emergence of social cognitive perspectives about the health effects of social support. According to these perspectives, perceived support is based on subjective and sometimes idiosyncratic evaluative processes, rather than on specific support behaviors (Kaul & Lakey, 2003). Such evaluative judgments will vary across individuals and relationships, and objectively identifiable supportive behaviors could be interpreted differently by different individuals. For some individuals, these supportive behaviors will be very beneficial, while those same behaviors could be perceived as irrelevant by others. In effect, the health-enhancing effects of social support stem directly from the quality of support behavior in the environment, as determined by the match between the needs of the support recipient and the type of support provided (Lakey & Cohen, 2000). In a way, the level of perceived support could represent an evaluative judgment of how much received support meets the needs of the recipient.

#### 14.1.1.1 Spousal Support

Prominent among sources of social support is spousal support, and some researchers have gone so far as to use marital status as a partial or complete index of support (Coyne & DeLongis, 1986). Indeed, perceived spousal support has been found to have a direct positive relation with general well-being (Dehle, Larsen, & Landers, 2001). Such support has also been found to play a stress-buffering role against the negative outcomes of interrole conflict (Beutell & Greenhaus, 1983; Suchet & Barling, 1986).

Two forms of spousal support, emotional and instrumental, have been conceptualized and empirically tested (Adams, King, & King, 1996). Emotional support includes caring behaviors, such as the provision of trust, empathy, love, and genuine concern for the welfare of the partner. Instrumental support has been defined as helping behaviors, such as giving time, skill, or advice. Instrumental spousal support eases the burden of family demands and enables individuals to devote more time to work, whereas emotional spousal support enhances feelings of self-efficacy both at home and at work (Parasuraman, Purohit, Godshalk, & Beutell, 1996). House (1981) has suggested that these two domains of support—emotional and instrumental—represent two of the functions of interpersonal transactions. Empirical studies have provided confirmation that social support comes in many different forms and may involve the expression of empathy and intimacy, actions, affirmations of belief, or practical matters, such as direct instrumental help, like doing household chores (Leavy, 1983). Cohen and McKay (1984) have proposed that the type of support (e.g., emotional, instrumental) that will be most effective in a particular situation depends on the stressor prevalent in that situation.

Research with military spouses has underlined the importance of the quality of the marital relationship and spousal support as a resource against the negative effects of deployment stressors on spouses' well-being (Schumm, Vranceanu, & Hobfall, 2004; Wood, Scarville, & Gravino, 1995). Further, research involving deployed soldiers has revealed that those who reported higher rates of family problems (i.e., lower perceived support) had more psychological symptoms and were less resistant to combat stress syndrome (Teitelbaum, 1992). As well, McCreary, Thompson, and Pastò (2003) have found that family concerns were associated with all measured dimensions of psychological well-being among CAF personnel preparing to deploy on a peacekeeping mission.

#### 14.1.1.2 Social Support and Trauma-Exposed Military Members

The importance of social support as a protective factor for traumatic stress and associated psychopathology has been well documented (Brewin, Andrews, & Valentine, 2000; Koenen, Stellman, Stellman, & Sommer, 2003; Ozbay, Fitterling, Charney, & Southwick, 2008; Pietrzak, Johnson, Goldstein, Malley, & Southwick, 2009). A number of studies have found that social support is among the strongest predictors of PTSD (Ozer, Best, Lipsey, & Weiss, 2003) and is associated with depression symptomatology (Clara, Cox, Enns, Murray, & Torgrude, 2003). In fact, meta-analytic studies have revealed that lack of social support is among the strongest predictors of PTSD in trauma-exposed adults (Brewin et al., 2000). Social support also protects against the depressogenic effects of perceived stress (Shahar, Cohen, Grogan, Barile, & Henrich, 2009), promotes lower distress and greater well-being following trauma (Butler et al., 2009), and correlates with psychological resilience (Pietrzak et al., 2010). Moreover, research has found that greater levels of social support predicted lower levels of PTSD symptoms in combat veterans (Barrett, 1988; Boscarino, 2006). One recent longitudinal study examined the impact of combat stress and resilience on mental health problems and functional impairment among U.S. Marines leaving the military. It was found that those with high levels of social support (i.e., perception of the adequacy of support from family, friends, and significant others) were approximately five times as likely to show improvements in mental health symptoms than those with low levels of support (Hourani et al., 2012). This is consistent with findings that low levels of social support are associated with reporting of common mental health disorders and probable PTSD among UK reservists (Harvey et al., 2011).

*Spouses of ill/injured military members*. Research on the demographic and psychosocial correlates of resilience in various trauma-exposed populations has emphasized the role of social support and being married/living with a partner (Bonanno & Mancini, 2008; Butler et al., 2009; Feder, Nestler, & Charney, 2009). Moreover, it has been found that veterans who reported minimal PTSD symptoms following combat exposure were more likely to be married/living with a partner, and they scored lower on a measure of psychological difficulties and higher on measures of psychological resilience and social support than veterans who reported

severe PTSD symptoms (Pietrzak & Southwick, 2011). This research is consistent with earlier research suggesting that being in a relationship and having spousal/partner support is protective (Malta, Levitt, Martin, Davis, & Cloitre, 2009; Prince, Harwood, Thomas, & Mann, 1998). Even though research interest in the role of social support in disease etiology remains strong, little is known about the influence of social support sources among the newer generation of injured military veterans. Furthermore, despite the extensive literature indicating the importance of social support, there are many unanswered questions about the specific aspects of social support that may produce positive effects on health.

*The impact of injury/illness on family members*. Clinical observation and empirical study have indicated that the consequences of traumatic events are not limited to the victim and often affect significant others in the victim's environment (Dekel, Goldblatt, Keidar, Solomon, & Polliack, 2005). These consequences have been described in the literature as secondary traumatization (Figley, 1986). The term secondary traumatization means that those close to trauma victims may experience considerable emotional stress and may over time become indirect victims of the trauma themselves. Overall, empirical studies have supported the concept of secondary traumatization among the wives of former combat soldiers (e.g., Ben Arzi, Solomon, & Dekel, 2000). Past research indicates that traumatized veterans often experience difficulties with intimacy and marital communication (Cook, Riggs, Thompson, Coyne, & Sheikh, 2004), outbursts of rage and aggression, and lower marital satisfaction and stability (Nelson-Goff, Crow, Reisbig, & Hamilton, 2007).

Research conducted after the experience of conflicts has shown that deployment stressors and demands result in considerable risk for various injuries, including mental health problems (Hoge et al., 2004). More recently, researchers have begun to recognize the impact of a veteran's health condition on family well-being (e.g., Alessi, Ray, Ray, & Stewart, 2001; Calhoun, Beckham, & Bosworth, 2002). Longitudinal research has suggested that the most common concern among ill/injured service members is their interpersonal relationship problems (Milliken, Auchterlonie, & Hoge, 2007). Furthermore, it has been shown that veterans who face conflict at home have much poorer treatment outcomes (Gavlovski & Lyons, 2004; King, Taft, King, Hammond, & Stone, 2006) and that the healthy partner is often the primary caretaker who assumes greater responsibility for household chores and for the maintenance of relationships (Badr, Barker, & Milbury, 2011). The demands on the partner sometimes lead to "caregiver burden," which is defined as the extent to which caregivers perceive their emotional or physical health, social life, or financial status to be affected by caring for an impaired relative (Zarit, Todd, & Zarit, 1986). Several studies have found that wives of injured veterans reported greater relationship distress than wives of non-injured veterans (Frederikson, Chamberlain, & Long, 1996; Jordan et al., 1992, Mikulincer, Florian, & Solomon, 1995). Moreover, a number of studies have shown that the greater the sense of caregiver burden the spouses reported, the greater their emotional distress (Beckham, Lytle, & Feldman, 1996; Calhoun et al., 2002; Manguno-Mire et al., 2007). A recent review (Dekel & Monson, 2010) of knowledge regarding the relation between military-related PTSD and family relations concluded that the best models for

describing the association between PTSD and family relations recognize the multidirectional effect of PTSD symptoms on family relations and vice versa (Dekel & Monson, 2010). Thus, most researchers studying family resiliency have focused on the relational processes within families as the primary basis for considering their resiliency (e.g., Walsh, 2011).

The few studies that have examined the experiences of injured veterans and the impact of their injuries on their partners and relationships have found that wounded and injured veterans often experience difficulty reconnecting and re-establishing intimacy with their partners. These studies have also reported that couples who engage in open communication, shared activities, and sexual and nonsexual methods of expressing intimacy appear to have better marital adjustment, such as satisfaction, cohesion, and stability over time (Badr et al., 2011). Along the same lines, research with Vietnam veterans has shown that those who have made the most progress in recovery from trauma have talked about their experiences with supportive others—most notably a spouse or intimate partner (Egendorf, 1982). Furthermore, it has been demonstrated that combat veterans with low spousal support are four times more likely to be demoralized and to exhibit various stress symptoms (Egendorf, Kadushin, Laufer, Rothbart, & Sloan, 1981) implying that having a supportive relationship with one's spouse could reduce considerably the negative impact of trauma and could aid greatly in the recovery and healing process.

The symptoms experienced with many types of illness/injury (especially mental health issues) may contribute to a stressful and dysfunctional family environment, which decreases familial support in the recovery process. This might put military members in a challenging situation because treatment outcomes are much improved by strong social support. Social support can play different roles in the recovery and rehabilitation of injured service members. Most research has focused on the use of general psychometric measures of social support, which fail to bring out the nuanced ways in which social support is used. Furthermore, qualitative research methods may be particularly useful when the goal is to increase understanding of the disability experience, reveal challenges related to recovery, and inform intervention programs (Brenner, Homaifar, Adler, Wolfman, & Kemp, 2009).

## 14.2 Present Study

The present study explored the different roles that social support—specifically, perceived spousal support—can play in the recovery of injured service members and examined the factors that may impede the spouse's ability to provide adequate support. Exploring these factors from CAF members' perspective could provide insight into more specific interventions that service providers can use to reduce the negative impacts of injury on the marital relationship and to enhance the spouse's ability to provide health-enhancing support. Further, this research aimed at eliciting dimensions of perceived spousal support that can be included in future studies to refine theoretical models and to integrate findings into practice.

## *14.2.1 Methods*

### 14.2.1.1 Participants

Data for this study were collected through semi-structured, in-person interviews with ill/injured CAF members in the Return to Work (RTW) program at 13 locations across Canada. The RTW program is a vocational rehabilitation program that helps restore the physical and mental health of ill and injured service members through reintegration into the workplace and the progressive resumption of regular duties. Interviews were conducted in Shilo, Winnipeg, Edmonton, Esquimalt, Trenton, Petawawa, Kingston, Toronto, Borden, Halifax, Gagetown, Valcartier, and Ottawa. Participants were recruited through an invitation to participate in the study that was sent to and distributed by the coordinator of the RTW program.

Of the 117 CAF members interviewed, 80 (68 %) were in the Canadian Army, 23 (20 %) were in the Royal Canadian Air Force, and 14 (12 %) were in the Royal Canadian Navy; 94 (80 %) were male and 23 (20 %) were female; 34 (29 %) were single, 66 (56 %) were married or in a common-law relationship, and 17 (15 %) were separated or divorced. Further, 46 (39 %) interview participants had less than 10 years of service in the CAF, 31 (27 %) had between 10 and 19 years of service, and 40 (34 %) had 20 years of service or more; 75 (64 %) were junior non-commissioned members (NCMs), 32 (27 %) were senior NCMs, 9 (8 %) were junior officers, and one (1 %) was a senior officer.

### 14.2.1.2 Interviews

Interviews ranged from 30 min to 2 h; on average, the interviews were 1.5 h in duration and were recorded on a voice recorder. Interviews were not concerned solely with social support, but with the mechanisms that promote successful rehabilitation as well as with factors that impede the reintegration process for ill and injured CAF members. The confidentiality of all participants was ensured. All participants were verbally notified prior to the interview that their participation was voluntary, and they were asked to provide informed consent by signing a consent form. None of the CAF members were asked to indicate the nature of their illness or injury and no medical information was solicited.[1] All participants were provided with a list of contact numbers in the event that they experienced emotional distress. Answers from all participants were aggregated in the reporting and were not linked to any particular individual.

The interviews were conducted using a hermeneutic approach, which explores topics from the respondent's perspective. This approach is particularly useful when the question of interest is focused on understanding the human experience. A semi-structured interview protocol was used, in which a list of questions was developed

[1] Given the experiences reported, it seemed that most of the interviewees had suffered from some form of mental illness.

for the interview guide to facilitate exploration of the topics of interest. Participants were encouraged to elaborate on their answers using examples and experiences, and the interviewers probed for additional thoughts and reflections and asked unscripted questions. This practice is consistent with the hermeneutic interview technique, which recommends asking "whatever questions are relevant to understanding that individual's experience" (Patterson & Williams, 2002).

The recorded interviews were transcribed and the data analyzed using the qualitative software program MAXQDA. Using the hermeneutic approach, predominant themes were identified through which narrative accounts were meaningfully organized. Analyses of the initial interviews were then revisited based on the insights gained from subsequent interviews. The interpretation of the interview data not only sought to identify themes but also helped to understand and explain the interrelationships among themes in order to reach a holistic and insightful interpretation. The following themes and subthemes were identified on the basis of emergent insights generated from the interviews: (1) direct spousal support: emotional and instrumental support; (2) indirect spousal support: discovery of the problem and motivation to seek help; (3) impediments to spousal support: marital communication, detachment and anger, burden, and spousal well-being.

## 14.3 Results

### *14.3.1 Spousal Support*

*Emotional support*. Participants discussed the significant protective nature of support from their spouses. In response to the question of which sources of support were the most useful in dealing with their injury/illness, one member stated that his spouse was his most important source of emotional support:

> Initially when this was all happening, I've said this more than once, because there was no system there supporting us I probably would—I wouldn't be here. I would have probably committed suicide. So if I hadn't had my spouse—yeah, I wouldn't have lived.

Those who indicated the presence of spousal support described emotional aspects of the support as "being there," "always listens," "getting along." Recognizing the challenges posed to their spouses, they often reported "being lucky" that their spouses were understanding and that they had been able to "hold onto their marriage."

> My wife's been very supportive during this time. I've had my ups and downs big time, and she's stayed through them all. I'm one lucky guy. She's pretty aware of my condition, and she lets me know if I'm slipping or anything. Not every guy is so lucky.

*Instrumental support*. Spouses have not only provided the emotional support that members needed during the recovery process but also provided their injured members with practical help throughout this process. One member stated that he "depended on her for everything, everything. It's like taking care of a kid."

The instrumental support ranged from taking care of the household (e.g., paying bills) to making sure the member attends medical appointments and takes his or her medications.

> She would understand when I said I was having a bad day, or a lot of the times she would actually make me take the drugs, because I don't like to, so she would have to force me to take them, so that I wasn't as hurt. So I have a lot of support and I was lucky, very fortunate…
>
> Actually there were times, lots of times, where my wife actually drove me in and waited around for my appointments to be done to drive me back home because I couldn't drive onto the Base. It was to the point where the fact that I would be … my wife would be driving and I'd be holding down the chair and I was almost ripping the cloth out of the chair. That's how bad just the thought of it, just getting me going in there.

The spouses of injured members may find it difficult to provide the type of support that is so critical to members' recovery. The following remark certainly speaks to the importance of specific kinds of supportive behavior for injured members and the importance of perceived support.

> I'd like to say my wife was [supportive], but she wasn't, even though she believed she was. It didn't actually work out that way. She said she understood, but at the same time she expected me to continue on with what I was doing to make sure things weren't going to fall apart financially or career-wise. So acknowledging it and actually supporting it are two different things.

For those participants who reported that they lacked support from their spouses, it was often found to have had a significantly negative impact on their ability to move forward in their recovery and rehabilitation. Several participants stated that they would have "gotten better" sooner or would not have had such severe symptoms if they had received more support from their spouses. Some participants reported that their illness/injury had caused the end of their relationships. The lack of support compounded their illness/injury:

> I always think: if she'd just stayed until I got better, or stayed period, I could have worked. I could have gotten better a lot sooner, and I don't think I would be on the release road. I'm still angry about that, but I understand.

### *14.3.2 Indirect Spousal Support: Discovery of the Problem and Motivation to Seek Help*

*Discovery of the problem*. An initial reluctance to acknowledge their illness/injury, and often even a complete denial that anything was wrong or that they were experiencing difficulties beyond the normal demands and stresses of military life/deployments was a common theme identified among participants. This lack of recognition or denial frequently resulted in a significant delay between the time the member first experienced symptoms/issues and the time the member sought help. Such delays can compound the severity of the illness/injury and negatively impact an individual's recovery. The spouses of the ill/injured members were found to play

a key role in both recognizing that the member was experiencing difficulties and in bringing it to the attention of the member. Even after the spouse had identified the problem for the member, it was frequently found that, for a period of time, the member refused to acknowledge their symptoms or accept what their spouse was saying (e.g., spouse was "crazy," "I was angry for a reason"). It was only in hindsight that members saw that their spouses were in fact right, and that they had been suffering long before they saw it in themselves. Thus, the spouse had a crucial role in identifying the illness/injury.

> I didn't really pick up just how much of a change it was from when I left [for deployment]. My wife had picked it up…that's why she'd been kicking me to go get answers.

What made the process longer and more complicated was the fact that many suffered from delayed combat reaction. In other words, the illness did not appear in immediate proximity to an identified experience (e.g., combat role), but months or even years after the members' traumatic experience had occurred. These conditions can make it very difficult for most spouses to understand the causes and the nature of their military spouses' problems. The following is an example of a member's reaction to the general question, "Did your spouse know what was going on with you?"

> …the physical injury she did. The mental injury she didn't. That stuff didn't start weighing in on her until about…the first year, because I was irritable, my temper was out of control. I was out of control. Yeah, there is just no other way to put it, I guess.

One injured member described the role that his spouse played in helping him realize the issue:

> I wouldn't accept it or recognize it. She just kept pointing it out and pointing it out…. Once I came forward, I still didn't really believe it right away. Probably took a while, and I'm not sure how long and at one point it was just "click" [snaps fingers].

*Motivation to seek help*. Once members were willing to acknowledge that they were ill/injured, they often found it difficult to seek help. The spouse/family was a key motivating factor in pushing the member to seek help and was often the primary reason that participants gave for coming forward (e.g., spouse threatening to leave, family falling apart, toll it was taking on spouse/children).

### *14.3.3 Impediments to Spousal Support: Marital Communication, Detachment and Anger, Burden, and Spousal Well-Being*

*Marital communication*. Open communication is the key to success in all close relationships, yet it may be extremely difficult to accomplish in relationships where one partner suffers from mental illness. It is common for members not to tell their families about their traumatic experiences. Families provide the injured member with a safe environment, free from the distress that traumatic memories can cause.

Members feel as though their environment will no longer be safe if they tell their families about their experiences, so they actively ensure that their spouses do not find out about their traumatic memories. This can be seen as a positive strategy in that it provides protection. However, it could also be seen as the need to maintain the personal distance between themselves and others because members fear they will be condemned and rejected by others who become aware of their experiences. Further work is needed to explore this coping mechanism.

> I kind of keep her sheltered from it because she doesn't need to know why I'm sitting there freaking out about this or freaking out about that….She doesn't…. She knows I have PTSD. She's in the military, so she kind of understands that whole part. But the help side of it—she doesn't quite understand and she doesn't know….if I'm freaking out about this or freaking out…. because I try to hide it. I don't want to kind of lose a good thing either…it's kind of a support in that way a little bit that keeps me from sitting in my garage, drinking at night…

One member elaborated on the difficulty of communicating how he felt to his family members:

> It's not something you're prepared for, and it's not something you understand. I don't think you understand it before you go through it. …I find it hard to tell my family—how do you tell your family, "Yeah, I almost killed myself." You know? Without getting into what you've seen, what you haven't seen, what you've done, because I don't want to get into that.

In some cases members reported that their spouses felt apprehensive about openly discussing the issue:

> The issue I have is support on the home front. I don't have all that support from my spouse and my kids. They're aware of what's going on, but they don't talk about it. Certainly, my spouse doesn't talk about it as much as I would like her to. But that's something that she has to contend with herself, right? She's got issues that she has to go through, and I can try to get people to be sounding boards for her, but she's got to want to do it. She's got to want to seek help, and that's where we're at now.

It is possible that some spouses reach a point where they dread speaking to the member, as a result of experiencing negative responses from the member and finding his or her attempts at meaningful communication resulting in indifference. This issue has been identified in the literature as a marital communication apprehension (Shehan, 1987) and has been defined as an enduring syndrome in which one's fear of communicating with one's spouse outweighs the gains that one anticipates from doing so. As a result of members' mental illnesses, the marital communication system becomes characterized by defensive rather than supportive behavior.

*Detachment and anger*. One of the prominent findings related to familial reality is the situation where the member is "absent–present." Physically, such members live and are present in family life, but their emotional state causes them to detach themselves from reality, seeming to other family members as though they do not feel or respond to those around them. This gives rise to a disparity between their apparent presence and their conduct, which lacks depth and content.

> There was big disconnects. Very emotionally drained and angry all the time from the environment I was in to constantly having the agitation and being on high alert all the time. Being able to manage the family or the kids in a caring manner was very difficult because

> they're kids and they're high energy and they're—you know? It's like you almost feel like the dog that is freaked out by kids because they're so erratic and they move around and that's how you feel. "Just stop moving. Just stop moving and stop running and stop screaming. Oh, god. Please stop screaming, child." Because those triggers are just incredible. So your family itself creates triggers for you that…you know. And then all you can do is you just want to lock yourself away and just crawl into a soundless cave that has no noise and just sort of make the bad thoughts go away.

Some reported the impact of their injuries on couple intimacy. It seems clear that the member's mental health affects the couple's intimate relations significantly and negatively.

> It affected our—basically our sex life is gone. Nonexistent. That affects everything, you know? "Is it not me?" You know? "What's wrong with me? Why don't you love me?" And it has nothing to do with her. You don't feel like anything. I don't feel close to anybody.

According to the DSM-III, increased irritability linked with sporadic and unpredictable explosions of aggression is particularly characteristic of combat veterans with PTSD. They may often be living on the verge of exploding, with no way to communicate their stress and deal with it in healthy ways. Thus, they displace this stress and anger onto those who are closest to them—their spouses.

> I go from cold to hot on my wife all the time. That sometimes she parks the car in the driveway. I go back out if it's not facing in an exact direction. That's one of a million things that I was doing for, like, the first year back home. Driving her crazy, you know? Other things that I blow up on her for: her not putting something away. And then the next minute I'd be totally cool and be wondering why she's so pissed off at me.

*Burden*. Members described many negative effects of their injuries on daily family functioning. They often described an inability to carry out regular tasks associated with normal family functioning, such as cleaning, taking care of the children, shopping, and so on. Members identified their pre-injury selves as being providers and caregivers, often within the context of military services. Post-injury, they spoke about having to depend on others. They voiced the shared concern of becoming a burden on others. Expressed sentiments regarding increased dependency on others were associated with feelings of emotional distress, including hopelessness and depression.

> At the beginning, before understanding the principle, of course it's hard on your family life, because you become like a burden. You're a bit like—how can I put it. I'm talking about myself here—from one day to the next I was super active, and then as soon as I saw the doctor and he told me, yes, that's fine, we're going to put you on sick leave because…. It's like I told you, a weight was lifted from me and I slipped right into neutral—like a couch potato. Well, that's how I was for a while, and so the family—it's really hard to see [laughing] the head of the family sitting on the sofa all day long doing nothing. It's tough, especially for the wife.

Most members reported having a very limited social life. It is mostly due to their difficulties in leaving home and enjoying almost any leisure activity. In addition, many reported a general feeling of being overwhelmed by their mood-related symptoms and a sense of social isolation. Some reported several suicide attempts. Links between substance misuse and suicide ideation also emerged.

*Spousal well-being*. The detrimental effects of injuries are not limited to the ill/injured member; they also have adverse effects on the ill/injured member's family. Participants frequently acknowledged that their illness/injury had also had a negative effect on their spouses and were aware that their suffering had led to a decrease in their spouses' well-being. A number of participants described the cumulative transformative effect of their illness on their spouses' well-being, and their descriptions are consistent with other studies of secondary traumatization.

> It gets tough for her…with all the problems that I have and trying to take care of me. Now she goes and sees someone for counseling because of what PTSD has done to her. I figure if she didn't start going for help, I'd be living by myself somewhere.

It was not only the care-taking role that contributed to the stress of the spouses, but also the abusive behavior that they sometimes had to endure:

> She was under an extreme amount of stress just from watching me under a lot of stress and from emotional stress from me saying things that I didn't mean to her. I'm sure she thought about leaving me at one point.

Most participants recognized the impact of their injuries on their relationships. Those who had been able to maintain their relationships often used terms like "lucky" and "grateful" and recognized that they were fortunate to still have a spouse. For several, this negative effect was not something that they had been cognizant of while they were in the midst of their illness/injury, but was often something that they became aware of as they began to recover and reflected on how it had affected their family.

## 14.4 Discussion

In this study, spouses were found to play an important role in the recovery and rehabilitation of ill/injured CAF members. Many participants attributed both their initial recognition of their illness/injury and their willingness to seek help to their spouses. Spousal support was found to be a key factor for participants, either having a positive effect when support was present or a negative effect when support was absent. The findings of this study corroborated the notion that it is the *perceived* support that has health-enhancing effects. Several respondents indicated that their spouses thought that they were being supportive, while the ill/injured members themselves did not evaluate those behaviors as supportive, further contributing to their distress.

In line with previous research, the results of this study suggest the importance of both instrumental and emotional support as coping resources in the recovery process. Overall, the findings point to the tremendous adverse effects of injury/illness on the spouses and families of military members. The relationship between the service members and their spouses was found to be impacted by the illness/injury of the members. The intimate nature of the marital relationship, and the fact that the spouse is usually the main source of support, often made the relationship very challenging,

and it was perceived by the members to have had a negative impact on spousal well-being. It has been previously suggested that close and prolonged contact with a traumatized spouse may serve as a chronic stressor, which can result in physical and psychiatric distress among the spouses of traumatized veterans (Solomon et al., 1992). In some instances, the members attributed the dissolution of the relationship to their illness/injury.

The findings of this study are also in line with previous research in which war veterans suffering from PTSD reported difficulties in marital communication and intimacy (Cook et al., 2004; Solomon et al., 2011), ineffective patterns of communication and familial conflict resolution (Solomon et al., 2011), negative perceptions of marital interactions, and increased risk of marriage dissolution (Solomon et al., 2011). These findings also validate one of the proposed explanations for problems in marital adjustment among traumatized military members. According to Evans, McHugh, Hopwood, and Watt (2003), traumatized soldiers are overwhelmed with feelings of anger and rage that can erupt and lead to aggressive behavior towards their families. Many ill/injured members also reported emotional numbness and avoidance of social relations, which inhibited their capacity for intimacy. These difficulties are often accompanied by a decline in sexual desire and sexual functioning. This could result in spouses' feelings of rejection, frustration, and low self-worth (Williams, 1980).

This study highlighted the role of spouses in identifying illness and helping the injured/ill member recognize the illness and motivating them to seek help. Because of the important role that spousal support plays in promoting recovery from trauma, spousal understanding of the symptoms of psychological distress and strategies for communicating with ill/injured could be extremely helpful in this process. The findings showed that spouses were often the first to notice symptoms of illness and that they had a strong influence on whether an ill/injured member sought treatment. Thus, it is important that spouses have accurate information about mental illness and warning signs, and that they understand the strategies for communicating any concerns to their military spouses.

These findings contribute to an understanding of how ill/injured military members cope, and they broaden the view of posttraumatic phenomena to include other family members and the family environment as a whole. It is clear that therapeutic intervention should include spouses, who serve as members' primary caregivers. Our results indicate that the heavy burden carried by spouses might make it difficult for them to recognize the need for treatment. Further, the findings highlight the importance of a holistic approach to interventions for post-trauma victims. The entire family is affected by the injury/illness, and the spouses bear the burden of supporting and caring for their military partners and families. Thus, these findings lend support to a two-pronged approach to intervention first address the psychological problems that spouses have developed, and then assist the spouse in effectively performing a care-giving role.

Results of the present study extend the literature on spousal support for ill/injured by showing that a unique aspect of social support—namely, family understanding of deployment-related difficulties—is associated with resilience. They also underscore

the importance of family resilience approaches to recovery following trauma, which may be helpful in contextualizing traumatic experiences and facilitating the building of strength and resources of relational networks to promote recovery and posttraumatic growth (Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008; Walsh, 2007).

This research involved an exploratory qualitative study of a specific population (i.e., RTW participants) to enhance the identification of common themes that might suggest paths for important areas of future research. While there are limitations to the representativeness of this non-probability sample, this study's in-depth interviews provided a level of detail and insight that would not have been possible with a questionnaire. Researchers are only just beginning to understand the problems experienced by military members. Most research has been concerned with the immediate consequences for military members only. The results of this study indicate that there are aversive effects of traumatic experiences, not only on the ill/injured but also on their spouses. Further research is needed to clarify the nature of these effects and to explore ways in which the longer-term effects can be minimized through appropriate intervention. Future research could include the perspective of spouses: It would be useful to learn more about how they cope and stay resilient through the persistent stress that is part of their lives. As well, future research could also focus on the mechanisms that play a role in the process of secondary traumatic stress reactions, because it is not yet clear which spouses are particularly at risk of developing secondary traumatization. For example, factors such as social support availability and the spouse's coping strategies and personality traits (such as self-efficacy) may all be important in determining the risk for secondary traumatic stress reaction.

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# Chapter 15
# The Family Ties That Bind: Tangible, Instrumental, and Emotional Support Among Homeless Veterans

**Maria J. O'Connell and Robert Rosenheck**

*The first line of defense against the streets remains the support of kin and friends.*

~Kim Hopper (1991).

**Abstract** The availability of adequate social support has been associated with a number of positive psychiatric and health outcomes among persons experiencing significant life challenges. While much research has demonstrated risk factors for homelessness among veterans, less attention has been paid to existing networks of natural support, particularly familial support, which may provide a safety net for veterans who might otherwise be homeless and may help those who are currently homeless exit from that condition. This chapter presents findings from a study of the social network characteristics of veterans entering the HUD-VA Supported Housing (HUD-VASH) program in the 1990s. Multiple dimensions of social network structure and function were assessed among a sample of 1,438 veterans enrolled in one of the original 19 HUD-VASH sites nationwide. Network characteristics were examined as a function of the absolute availability of family and/or peers as sources of specific types of tangible, instrumental, and emotional (TIE) support. We then examined between-group differences and similarities on key demographic, clinical, community adjustment, and social variables based on the categorization of source of

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support. Finally, we compared social support indicators among HUD-VASH veterans to a sample of individuals with severe mental illness receiving mental health services in Connecticut. Similar to reports from studies of a more general sample of homeless individuals, our research found that the vast majority of homeless veterans in our sample identified at least one close person in their lives and that the number of social ties was inversely related to the length of time homeless. Veterans in our sample, however, reported rates of instrumental and emotional support that were 30–50 % higher than those reported among a more general sample of homeless individuals. Results further suggest that the availability of support from family members may be associated with more positive outcomes for these individuals. These findings may suggest critical areas for program development and future research.

**Keywords** Homeless • Service provider • Peer support • Family support • Employment • Mental illness • Substance abuse

## 15.1 Introduction

Military veterans are an important and, in some younger age groups, an over-represented segment of the homeless adult population (Fargo et al., 2012; Gamache, Rosenheck, & Tessler, 2001; United States Department of Veterans Affairs, 2010, 2011). Ending homelessness among veterans has become a national concern and a top priority of the Department of Veterans Affairs (VA). In 2009, the VA declared a goal of ending homelessness among veterans in 5 years and has dramatically ramped up funding for a variety of programs and services for homeless veterans (United States Department of Veterans Affairs, 2009). Thus, this is an opportune time to further examine the needs of homeless veterans and particularly the little examined area of the family relationships of homeless veterans.

Risk factors for homelessness among veterans have been found to be similar to those found among homeless adults in the general population. Among veterans, risk factors include being aged 40–49, African-American, male, unemployed, disabled, poor physical health, psychiatric disorder (especially schizophrenia or bipolar disorder), substance use disorder, service in a war zone, and negative childhood experiences; while having a college education, being married, receiving VA service connected disability benefits, and being older are protective factors (Edens, Kasprow, Tsai, & Rosenheck, 2011; O'Connell, Kasprow, & Rosenheck, 2008; Rosenheck & Fontana, 1994; Tsai & Rosenheck, 2013; Washington et al., 2010). It is especially notable, and reassuring, that the proportion of veterans of deployments overseas to the recent wars in Iraq and Afghanistan among the homeless is substantially less than the proportion in the general veteran population (Edens et al., 2011). However, looking more broadly, veterans who served since the instillation of the all-volunteer army in 1973 are at especially greater risk of homelessness as compared to their age-matched peers (Gamache et al., 2001).

Since the establishment of the Federal Strategic Plan to Prevent and End Homelessness in 2010, significant progress has been made toward the achievement

of its goal of ending chronic and veteran homelessness by 2015 (Homelessness, U. S. I. C. o., 2010), although whether this reflects demographic trends or the impact of programs remains unclear. Recent data that indicate that since the plan was enacted, homelessness among veterans has decreased by 18 % and rates of homelessness in general have decreased by 2.5 % (Blank et al., 2012). This may be partially explained by the fact that as America's population of veterans age, a greater percent qualify for social security benefits which may provide a sort of antidote to homelessness through steady income (Rossi, 1991).

While much research has demonstrated risk factors for homelessness among veterans, less attention has been paid to existing networks of natural support, particularly familial support, which may provide a safety net for veterans who might otherwise be homeless and may help those who are currently homeless exit from that condition. Prior to the 1980s, research on the nature, cause, and consequences of homelessness often took for granted the assumption that homelessness, by definition, was attributed to a disaffiliation from members of one's personal support network, with very limited examination of the nature or impact of actual support networks (Bahr, 1970; Bahr & Caplow, 1973). With the landmark legislation of the McKinney Homeless Assistance Act of 1987 and increased social awareness of the severe problem of homelessness in America (Foscarinis, 1996), a new era of homelessness research emerged. The growing understanding of homelessness as a social, rather than a simply individual, issue contributed to the development of new lines of research aimed at understanding the intricate relationships that exist between causal, descriptive, and preventative factors of homelessness. A small portion of this research, which focused on identifying characteristics of social support networks of individuals who were homeless, found that, contrary to prior assumptions, the support networks of homeless individuals tended to be complex, diffuse, and more similar in size and affiliation to individuals of the general population than previously conceptualized (Bates & Toro, 1999; Hwang et al., 2009; La Gory, Ritchey, & Fitzpatrick, 1991; Toro, Tulloch, & Ouellerre, 2008).

### *15.1.1 Support Networks of Persons Who Are Homeless*

Social support has been defined as the "instrumental, expressive, informational, and/or emotional functions performed for an individual by family members, friends, or significant others" (Irwin, LaGory, Ritchey, & Fitzpatrick, 2008, p. 1937). In addition to characterizing social support networks in terms of structure (e.g., size, frequency of contact, relationship types, and interconnectedness) and function (specific types of supportive behaviors), a third dimension—subjective appraisal (satisfaction with, perceived adequacy, and availability of support)—is increasingly recognized as an essential link to well-being (Berkman, Glass, Brissette, & Seeman, 2000; Sarason, Sarason, & Pierce, 1990a, 1990b; Seeman, 1996; Vaux et al., 1986). Among the general population, support networks are typically comprised of 25–30 persons, across several "clusters" (i.e., relationship types such as family of origin, family of procreation, extended family, friends, neighbors, coworkers, professionals, etc.) (Greenblatt, Becerra, & Serafetinides, 1982).

An examination of the social support networks of homeless individuals has revealed that most do not suffer from "a condition of disaffiliation, a lack of bonding, or a pathology of connectedness" (Bahr, 1970), but instead have rather extensive networks of individuals who were available to provide various kinds of support at various moments in time (Hopper, 1991). This may include an occasional meal at a family member's house, a spot on the couch at a friend's (referred to as "doubling up"), the ear of a pastor when feeling down, or the sharing of a cigarette from a neighbor on the street. Many persons who are homeless have become quite resourceful in piecing together a multitude of supports into a more comprehensive network, although often not sufficient to allow them to exit from homelessness. For example, research conducted by La Gory and colleagues in 1991 demonstrated that 94 % of the sample of homeless individuals identified at least one person whom they sought for social support and although most had extensive networks, only 45 % of the sample described these supports as adequate. Seventy-nine percent of the sample reported having close friends, 98 % had at least one living relative to whom they could turn to for help, 70 % received some sort of assistance over the course of a year from a family member, and 71 % visited at least one relative every 2–3 months (La Gory et al., 1991). While extensive, this configuration of support networks is rather fragile and prone to breakdown, especially if one's sole source of a certain type of support is not available (e.g., friend has been evicted from apartment).

Findings of an inverse relationship between the number of network ties and length of time in which a person is homeless (Wolch, Rahimian, & Keogel, 1993) may reflect such a breakdown of overly burdened network ties. Research suggesting that individuals who are homeless have smaller social networks, especially familial connections, (Bates & Toro, 1999; Fischer, Shapiro, Breakey, Anthony, & Kramer, 1986; Toro et al., 2008), must take into consideration the length of time homeless and may point more to the gradual breakdown of supports over time rather than a causal relationship to homelessness. This may be especially true, given the findings of this same research that homeless individuals tend to be in contact with the family and friends they do have.

More recent research on the effects of perceived availability of different types of support among homeless individuals found that 62 % reported perceived access to at least minimal financial support (in the form of a $100 loan), 51 % reported access to instrumental support (such as a ride), and 60 % perceived having access to emotional support (Hwang et al., 2009). Of these types of support, financial support was significantly associated with better physical health, emotional support was positively associated with better mental health, and that individuals with perceived access to instrumental support were less likely to have been physically assaulted in the previous 12 months. Other research suggests that evidence of richer social support networks, among homeless individuals, was not associated with income, symptoms, and service knowledge, which might be expected based on findings of a buffering effect of social support among the general population (La Gory et al., 1991). And yet other research suggests the availability of support from family and friends among homeless individuals without a substance abuse disorder was associated with an increased likelihood of exiting from homelessness than among those with substance use disorders (Zlotnick, Tam, & Robertson, 2003). Thus, it is, perhaps, not the size

and composition of social networks that differentiates the homeless from the housed, but rather the interdependencies that may exist among network relationships, and the impact and perceptions of support received.

Other research findings must be interpreted with caution. For example, research has consistently documented that the majority of homeless individuals have never been married (Bates & Toro, 1999; Toro et al., 2008), although this is less true of veterans than non-veterans (Rosenheck & Koegel, 1993), who often prescribe to sanctioned values of marriage and family early in their career (Kelty, Kleykamp, & Segal, 2010). To some, this finding may serve as evidence in support of the social disaffiliation theories of homelessness—i.e., homeless individuals have an impaired capacity for maintaining social connections and intimacy, which contributes to a cycle of homelessness. However, when interpreted in light of the sociopolitical context of means-tested benefits (i.e., federal and/or state benefits that are adjusted based on total family income), the single status of the majority of homeless individuals may have more to do with economic disincentives for marriage and/or co-habitation that are built into many public welfare systems (Besharov, 2003; Kenney, 2004). Other disincentives toward establishing and maintaining intimate connections between homeless individuals include policies that define "homeless families" as one or more parents accompanied by their minor children—a definition that excludes couples without children (Weinreb & Rossi, 1995)—and shelter restrictions that force many two-parent families to reside at different shelters (Edelman & Mihaly, 1989; Paquette & Bassuk, 2009).

### *15.1.2 Social Networks of Persons with Severe Mental Illness*

Research on the social networks of persons with severe mental illness, which comprise an estimated 22 % of the homeless population (Greenberg & Rosenheck, 2010), suggests that individuals with a severe mental illness tend to have smaller social networks than the general population, largely due to the nature of the illness itself which can interfere with functional capacities (Tessler, Gamache, Rossi, Lehman, & Goldman, 1992). Among this population, greater social support is associated with a higher probability of employment (Wilkins, 2004); improved medication adherence (Perkins, 2002; Voils, Steffens, Flint, & Bosworth, 2005); and greater likelihood of symptom remission (Johnson, Lundström, Åberg-Wistedt, & Mathé, 2003; Johnson, Winett, Meyer, Greenhouse, & Miller, 1999; Rogers, Anthony, & Lyass, 2004). Lower levels of social support have been associated with reduced quality of life (Kertesz et al., 2005), increased disability (Travis, Lyness, Shields, King, & Cox, 2004), and increased suicidal ideation (Alexopoulos, Bruce, Hull, Sirey, & Kakuma, 1999).

Empirical research on the nature and characteristics of social support and especially family support networks of homeless veterans, in particular, is even more limited. The presence of a severe mental illness, not surprisingly, seems to play a partial role in the availability of social support among veterans (Post & Welsh, 2007). Although veterans in general have been found to have more personal resources than other homeless men (Tessler, Rosenheck, & Gamache, 2002), a recent study found that a

greater proportion of those with a severe mental illness reported having no close friends (15.8 % vs. 6.6 %) compared to veterans without a severe mental illness (Post & Welsh, 2007). Thirty-two percent of veterans with SMI compared to 19 % of veterans without an SMI reported having no one to help with routine chores; 28 % reported having no one to help with transportation; and they were more likely to report having less emotional support available compared to those without an SMI (Post & Welsh, 2007).

Although the view of homeless persons as socially isolated, withdrawn, and resourceless (Bahr, 1973) has not been fully supported by research, the perception often remains. Such incomplete assumptions tend to discourage the development of interventions that could build on existing sources of social and family support. Given the beneficial and often stress-buffering effects that social support has on psychological and physical health among the general population (Barrera, 1986; Cohen & Wills, 1985; Leavy, 1983; Terry, Nielsen, & Perchard, 1993), this possibility is worthy of additional, and more thorough, research among individuals who experience chronic homelessness in America, and particularly among veterans.

### *15.1.3 The Present Study*

The present study examined family contacts and family support within a sample of homeless veterans who participated in the national Housing and Urban Development-Veterans Affairs Supported Housing (HUD-VASH) program in the 1990s. More specifically, we examined the characteristics of veterans entering HUD-VASH by source(s) of three primary types of social support: tangible, instrumental, and emotional (referred to as TIE support in this manuscript). First, we identified the proportions of veterans who identified perceived availability of any of these three types of support from: (a) both family and non-kin peers, (b) from family only, (c) from peers only, and (d) from neither peers nor family. We then examined between-group differences and similarities on key demographic, clinical, community adjustment, and social variables based on the categorization of source of support. Finally, we compared social support indicators among HUD-VASH veterans to a more general sample of individuals with severe mental illness receiving mental health services in Connecticut who were assessed using the same measures of social support as those used in the HUD-VASH evaluation (Desai, Dausey, Sernyak, & Rosenheck, 2005).

## 15.2 Methods

### *15.2.1 Sample*

HUD-VASH began in 1992 with a memorandum of agreement between HUD and the VA to provide permanent housing subsidies and case management to homeless veterans with psychiatric and/or substance abuse disorders. HUD provided over

1,000 Section 8 housing vouchers to participants, while the VA's Health Care for Homeless Veterans (HCHV) program provided intensive case management and outreach services to support these vouchers at 19 sites. Four sites of HUD-VASH participated in an experimental evaluation of the program, while 15 sites were involved in an observational outcome study with no comparison group. The sample for the present study included all 1,438 veterans enrolled in one of the original 19 HUD-VASH sites nationwide. Criteria for inclusion in HUD-VASH included: (a) living in a shelter or on the street for at least 30 days, and (b) the presence of a psychiatric and/or substance abuse disorder at the time of initial contact with the HCHV program. Data were collected from 1992 to 2001 and in 2003 the results of the randomized trial were published demonstrating that veterans in HUD-VASH had superior housing outcomes, along with fewer days homeless and institutionalized than those receiving standard care (Rosenheck et al., 2003). Although now more than 10 years old, data from this rich, large, longitudinal dataset can be useful in expanding our understanding of social network characteristics of homeless veterans.

### *15.2.2 Procedures*

Participants provided written informed consent and the protocol was approved by the Human Investigations Committees at each VA medical center. Participants were paid $20 after each interview. In addition to a brief intake assessment conducted at the time of initial outreach contact with the sponsoring HCHV program, participants had a more detailed baseline assessment during enrollment into HUD-VASH, prior to receiving their Section 8 voucher. Following the baseline assessment, each veteran was assigned to a HUD-VASH case manager who assisted them in obtaining a Section 8 voucher and locating an apartment, and provided intensive case management support without a specified time limit.

### *15.2.3 Measures*

*Demographic and clinical characteristics*. The HUD-VASH baseline and follow-up interviews assessed demographic characteristics, childhood history, number of nights in the previous 90 days spent in each of 11 different types of residence (own apartment/house, someone else's apartment/house, hospital or nursing home, domiciliary, VA sponsored residential treatment program, non-VA residential treatment program, hotel/boarding home, shelter, outdoors/abandoned building, automobile/boat, or prison/jail), duration of current episode of homelessness, psychiatric symptoms, alcohol and drug use, social support, and quality of life. Days spent in a hotel/boarding home, shelter, outdoors/abandoned building, or automobile/boat were classified as days spent homeless.

Composite scores from the Addiction Severity Index (ASI) (McLellan, Luborsky, Woody, & O'Brien, 1980) were used to assess alcohol, drug, medical, employment, legal, and psychiatric status. Data on days of intoxication, drinking, and drug use, along with amount of money spent on substances, were also obtained from the ASI. The ASI is a structured interview for gauging the degree of potential treatment barriers across domains typically affected by alcohol and drug use disorders, including psychiatric and social considerations. Possible scores range from 0 to 1 where higher scores indicate higher severity of problems. The ASI has been rigorously assessed within similar client populations and shown to be both a reliable and valid way to assess alcohol and drug use with Cronbach's alpha levels measuring 0.81 and 0.67 respectively (Zanis, McLellan, & Corse, 1997).

Quality of life was evaluated using subscales of the Lehman Quality of Life Interview (Lehman, 1988), a structured interview that is used to assess life circumstances of persons in "objective terms"—what they actually do, and "subjective terms"—how they feel about their experiences. This interview assesses both the objective and subjective domains of a person's living situation, leisure activities, familial relations, social relations, work/school, legal and safety, and health with possible scores ranging from 1 to 7 on each subscale, with higher scores indicating better quality of life (Lehman, Postrado, & Rachuba, 1993). The QOL is reported to have good reliability and validity with Cronbach's alpha ranging from 0.56 to 0.87 on subscales.

Social support measures were constructed in terms of structure (social network size, relationships, and frequency of contact) and function (perceived availability of support for tangible, instrumental, and emotional support). Structural and functional components were further differentiated by support from ten specific relationships subsumed under five broader categories: (1) family of origin (parents, grandparents, and siblings), (2) family of procreation (children and spouse/significant other), (3) extended family (other family); (4) peers (other veterans, non-veteran friends, and coworkers), and (5) professionals (healthcare providers). Satisfaction with social support was assessed via two subscales of Lehman's Quality of Life interview—satisfaction with family and friends.

First, network size was calculated by the number of people (up to 8) the client felt close to in each of the ten relationship categories, allowing for the identification of up to 80 people. Second, a question assessing the maximum frequency of face-to-face contact over the past year with any person in each of the ten relationship categories was created. Responses were originally collected using a scale ranging from 0 ("never") to 6 ("lives with me") (Leda & Rosenheck, 1992, 1995). To allow for comparison to a similar frequency of contact variable used in the Connecticut Outcome Study (COS), responses on the 0–6 Likert scale were recoded into a 0–5 scale (as used in the COS), with responses of 5 ("daily contact") or 6 ("lives with me") being combined into a single response of 5 ("daily contact").

The third variable, perceived availability of support, was constructed to measure the client's perception of availability of three specific types of support from any person in

each of 11 relationship categories. These categories largely corresponded to the ten relationship categories described above, with the following exceptions: grandparents and extended family were included in a single "other family" category, professional supports were separated into three categories ("VA staff," "Non-VA staff," and "Clergy"), and coworkers were included in a broader "other" category. Using a modified version of the Social Support Resources (SS-R) (Vaux, 1992) respondents indicated, in a yes/no format, whether he/she "could have counted" on anyone within each category for support with: tangible support (financial help of a loan of $100), instrumental support (help with transportation to an appointment), or emotional support (help in an emotional crisis) (Alpha=0.74) (Lam & Rosenheck, 1999; Rosenheck & Seibyl, 1997).

### *15.2.4 Subgroups of Support*

Veterans were categorized into four groups based on sources of perceived support across three different types of support: tangible (e.g., loan), instrumental (e.g., ride), and emotional (e.g., if suicidal) support (TIES). Individuals who identified at least one peer (friends/neighbors, other veterans, and/or coworkers) and at least one family member (parents, brothers/sisters, spouse/significant other, adult children, or other family members) as a potential source of TIES were classified as having "Both Peer and Family Support" ($N=747$, 52 %). Veterans who identified at least one family member, but no peers, as a source of any TIES were classified as "Family/No Peer Supports" ($N=278$, 19 %). Individuals who identified at least one peer, but no family members, as a potential source of TIES were classified as "Peer/No Family supports" ($N=230$, 16 %). Finally, veterans who did not identify any peers or family members as a source of support across the TIES were classified as having "No Family/No Peer Support" ($N=183$, 13 %).

To aide in the interpretation of the results, we also examined two meta-level aggregations of the subgroups: (1) Family vs. No-Family Supports and (2) Peer vs. No-Peer Supports. This aggregation (discussed in the between-group differences sections below and details available upon request) was used to help identify particular components—family or peers—that may have uniquely contributed to results from 4-way comparisons conducted with Analysis of Variance for continuous variables and Chi Square tests for categorical variables.

## 15.3 Results

### *15.3.1 Sample Characteristics*

The average age of the veterans, 95 % of whom were male ($n=1{,}365$), was $43.4 \pm 7.9$ years. Most veterans were Caucasian ($n=596$, 42 %) or African-American ($n=730$, 51 %). Only 69 veterans (5 %) were married at the time of

entry into HUD-VASH. The remaining were either divorced ($n=624$, 44 %), never married ($n=464$, 32 %), separated ($n=244$, 17 %), or widowed ($n=34$, 2 %). On average, veterans had completed $12.5 \pm 1.8$ years of education. Just over one-third of the veterans came into HUD-VASH after their first episode of homelessness ($n=500$; 35 %) and one-third had been homeless more than three times in their life ($n=472$, 33 %). The lifetime average length of time spent homeless was 3.5 years. Across the sample, veterans spent an average of 6.5 out of the previous 90 days sleeping outside. Thirty-two percent of the veterans in this sample had served in a war zone ($n=465$), the majority of whom served in the Vietnam theater ($N=382$). The average length of time served in a war zone was $4.4 \pm 8.0$ months. Only 6 % ($n=92$) of the veterans were classified as having a service connected psychiatric disability and 216 (15 %) were classified as having a medical disability. The majority of veterans had their initial contact with the program via VA community outreach ($n=592$, 42.9 %) or self-referral ($n=278$, 20.1 %). Seventy-five percent of veterans ($n=1{,}476$) reported having some family support and 64 % reported having some peer support ($n=1{,}265$). Table 15.1 contains detailed information about the demographic characteristics of the subsamples examined in this analysis.

*Between-subgroup differences*. Veterans with family support were younger than those without family support by an average of 2 years, were more likely to be married (6 % vs. 2 %), and more likely to have some peer support (68 % vs. 53 %). Veterans with family support were significantly more likely to be black (57 % vs. 35 %), while those without family support were more likely to be white (57 % vs. 35 %). Veterans with family support were less likely to have three or more episodes of homelessness (30 % vs. 40 %), had shorter lifetime length of homelessness by 1.5 years, and slept fewer nights outdoors in the previous 90 days (5.5 vs. 20.0), compared to veterans without family support. Veterans with family support were more likely to be referred to HUD-VASH through a special program for homeless individuals (7 % vs. 3 %).

Veterans with identified sources of peer support spent fewer years homeless over their lifetime (3.3 vs. 4.0) and spent fewer nights out of the last 90 sleeping outdoors or in abandoned buildings (4.9 vs. 9.9) than veterans without identified sources of peer support. Veterans with both family support and peer support spent fewer nights sleeping outdoors than veterans with only family support (5 vs. 8).

*Clinical characteristics*. Most of the sample had a diagnosis of a substance or alcohol abuse or dependency ($n=623$, 43.3 %) or co-occurring diagnoses of serious mental illness (schizophrenia, other psychotic disorder, mood disorder, or PTSD) and substance use disorders ($n=507$, 35 %). Fourteen percent of the sample ($n=194$) had a diagnosis of serious mental illness without a substance use disorder. Eight percent of the sample either had no diagnosis at the time of intake ($n=86$, 6.0 %) or an Axis II/non-serious mental illness diagnosis ($n=28$, 1.9 %). Specific diagnoses (not mutually exclusive) included drug abuse/dependency ($n=754$, 55 %), alcohol abuse/dependency ($n=934$, 68 %), PTSD from combat ($n=216$, 16 %), mood disorder ($n=466$, 34 %), schizophrenia ($n=109$, 8 %), or other psychotic disorder ($n=78$, 6 %). One hundred and twenty-eight veterans (9 %) reported having

**Table 15.1** Sociodemographic characteristics of veterans

| | Total sample $N=1{,}438$ | | Sources of support | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No family/no peer support (A) $N=183$ | | Peer-only support (B) $N=230$ | | Family-only support (C) $N=278$ | | Family and peer support(D) $N=747$ | | | | |
| | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | $F$ or $\chi^2$ | df | $p$ | Multiple comparisons |
| Category of support | 1438 | 100 % | 183 | 12.7 % | 230 | 16.0 % | 278 | 19.3 % | 747 | 51.9 % | | | | |
| Age | 43.3±7.9 | | 44.0±8.8 | | 45.0±7.5 | | 43.7±7.9 | | 42.6±7.8 | | 6.3 | 3,1434 | <0.001 | B>D*** |
| Male | 1365 | 95.1 % | 171 | 94.0 % | 217 | 94.3 % | 267 | 96.4 % | 710 | 95.2 % | 1.8 | 3 | 0.62 | |
| Race/ethnicity | | | | | | | | | | | 82.2 | 21 | <0.001 | |
| White, not Hispanic | 596 | 41.5 % | 99 | 54.4 % | 137 | 59.6 % | 92 | 33.1 % | 268 | 36.0 % | | | | AB>C***D*** |
| Black, not Hispanic | 730 | 50.8 % | 69 | 37.9 % | 74 | 32.2 % | 158 | 56.8 % | 429 | 57.5 % | | | | CD>A***B*** |
| Hispanic | 68 | 4.7 % | 6 | 3.3 % | 10 | 4.4 % | 19 | 6.8 % | 33 | 4.4 % | | | | |
| Other | 42 | 2.9 % | 8 | 4.3 % | 9 | 3.8 % | 9 | 3.3 % | 16 | 2.2 % | | | | |
| Marital status | | | | | | | | | | | 27.0 | 15 | 0.03 | |
| Married | 69 | 4.8 % | 3 | 1.6 % | 7 | 3.0 % | 23 | 8.3 % | 36 | 4.8 % | | | | C>A* |
| Widowed | 34 | 2.4 % | 2 | 1.1 % | 8 | 3.5 % | 8 | 2.9 % | 16 | 2.1 % | | | | |
| Separated | 244 | 17.0 % | 31 | 17.0 % | 31 | 13.5 % | 51 | 18.5 % | 131 | 17.5 % | | | | |
| Divorced | 624 | 43.5v | 78 | 42.9v | 114 | 49.6 % | 122 | 44.2 % | 310 | 41.5 % | | | | |
| Never married | 464 | 32.3 % | 68 | 37.4 % | 70 | 30.4 % | 72 | 26.1 % | 254 | 34.0 % | | | | |
| Years of education | 12.5±1.8 | | 12.4±1.9 | | 12.6±2.0 | | 12.5±1.8 | | 12.6±1.7 | | 0.5 | 3,1432 | 0.68 | |
| # Times homeless (lifetime) | | | | | | | | | | | 25.3 | 12 | 0.01 | |
| Once | 500 | 34.9 % | 57 | 31.3 % | 67 | 29.1 % | 106 | 38.4 % | 270 | 36.2 % | | | | |
| Twice | 290 | 20.2 % | 24 | 13.2 % | 47 | 20.4 % | 59 | 21.4 % | 160 | 21.5 % | | | | |
| Three times | 171 | 11.9 % | 18 | 9.9 % | 33 | 14.3 % | 35 | 12.7 % | 85 | 11.4 % | | | | |

(continued)

**Table 15.1** (continued)

| | Total sample $N=1{,}438$ | | Sources of support | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No family/no peer support (A) $N=183$ | | Peer-only support (B) $N=230$ | | Family-only support (C) $N=278$ | | Family and peer support(D) $N=747$ | | | | |
| | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | $F$ or $\chi^2$ | df | $p$ | Multiple comparisons |
| More than three times | 472 | 32.9 % | 83 | 45.6 % | 83 | 36.1 % | 76 | 27.5 % | 230 | 30.9 % | | | | A>C***D*** |
| Length of time homeless (lifetime, in years) | 3.5±4.0 | | 5.1±5.0 | | 4.1±5.1 | | 3.2±3.9 | | 3.0±3.2 | | 16.0 | 3, 1412 | <0.001 | A>C***D***, B>D** |
| # of nights out of previous 90 slept outdoors | 6.5±17.0 | | 12.9±23.4 | | 6.0±15.9 | | 8.0±19.2 | | 4.6±13.8 | | 13.0 | 3, 1434 | <0.001 | A>B***D***C*, C>D* |
| Service connected psychiatric disability | 92 | 6.4 % | 16 | 8.7 % | 16 | 7.0 % | 16 | 5.8 % | 44 | 5.9 % | 2.3 | 3 | 0.51 | |
| Service connected medical disability | 216 | 15.0 % | 22 | 12.0 % | 37 | 16.1 % | 46 | 16.5 % | 111 | 14.9 % | 2.0 | 3 | 0.57 | |
| Ever served in war zone | 465 | 32.4v | 58 | 31.9 % | 87 | 38.0 % | 89 | 32.0 % | 231 | 31.0 % | 4.0 | 3 | 0.27 | |
| Vietnam | 382 | 26.8 % | 49 | 27.2 % | 66 | 29.3 % | 73 | 26.6 % | 194 | 26.1 % | 1.0 | 3 | 0.81 | |
| # Months served in war zone | 4.5±8.0 | | 4.6±8.0 | | 5.6±9.0 | | 4.6±8.8 | | 4.0±7.4 | | 2.4 | 3,1407 | 0.07 | |
| Mode of initial contact | | | | | | | | | | | 35.6 | 21 | 0.02 | |
| VA community outreach | 592 | 42.9 % | 72 | 40.2 % | 99 | 45.2 % | 116 | 44.1 % | 305 | 42.5 % | | | | |
| Referral from non-VA homeless program | 128 | 9.3 % | 20 | 11.2 % | 22 | 10.0 % | 16 | 6.1 % | 70 | 9.7 % | | | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Referral from inpatient VA program | 43 | 3.1 % | 10 | 5.6 % | 5 | 2.3 % | 8 | 3.0 % | 20 | 2.8 % | | | | |
| Referral from outpatient VA program | 132 | 9.6 % | 17 | 9.5 % | 21 | 9.6 % | 25 | 9.5 % | 69 | 9.6 % | | | | |
| Vet came to center | 55 | 4.0 % | 11 | 6.1 % | 14 | 6.4 % | 7 | 2.7 % | 23 | 3.2 % | | | | |
| Self-referred | 278 | 20.2 % | 32 | 17.9 % | 47 | 21.5 % | 59 | 22.4 % | 140 | 19.5 % | | | | |
| Special program for homeless | 80 | 5.8 % | 4 | 2.2 % | 4 | 1.8 % | 17 | 6.5 % | 55 | 7.7 % | | | | D>B* |
| Other | 71 | 5.1 % | 13 | 7.3 % | 7 | 3.2 % | 15 | 5.7 % | 36 | 5.0 % | | | | |

thoughts of suicide in the 30 days prior to baseline and 12 (1 %) had attempted suicide in the 30 days prior to baseline. Scores on the ASI-Psychiatric Symptom Index averaged 0.24 ± 0.25. Veterans reported a frequency of 4 days of intoxication (sd = 9.1) and 4 days of drug use (sd = 9.0) out of the previous month (not necessarily different days). The average amount per month spent on alcohol or drugs was $195 (sd = $560), which was equivalent to 22.5 % (sd = 37.5 %) of the monthly income. Across the entire sample, average ASI-Alcohol scores were 0.18 (sd = 0.22), ASI-Drug Index scores were 0.07 (sd = 0.11), and ASI-Medical Problem Index = 0.36 (sd = 0.39). Table 15.2 contains detailed information about the clinical characteristics of the sample.

*Between-subgroup differences*. Veterans with family support had lower ASI-psychiatric scores (0.17 vs. 0.19), were less likely to have an SMI diagnosis (11 % vs. 19 %), and more likely to have a substance abuse disorder without SMI (46 % vs. 32 %) than veterans without family support. Schizophrenia (7 % vs. 11 %), other psychotic disorders (5 % vs. 8 %), and PTSD from combat (14 % vs. 20 %) were less common among veterans with family support than those without family support. Veterans with family support were more likely to have a diagnosis of drug abuse/dependency (60 % vs. 42 %), had more days of drug use (4.6 vs. 3.4), and higher ASI-Drug scores (0.08 vs. 0.06) than veterans without family support. Veterans with family support also reported lower ASI-Medical scores (0.34 vs. 0.41) than veterans without family support.

Veterans with perceived sources of peer support were less likely to have an SMI diagnosis without a substance use disorder that those without peer support (11 % vs. 19 %), less likely to be diagnosed with schizophrenia (5 % vs. 14 %), had lower ASI-psychiatric index scores (.22 vs. .28), and were more likely to be diagnosed with alcohol abuse/dependency (71 % vs. 62 %) and drug abuse/dependency (57 % vs. 50 %).

Veterans with combined family and peer support were less likely to have an SMI only diagnosis (10 %), especially schizophrenia (5 %), than veterans with family support without peers (16 % and 12 %, respectively).

### *15.3.2 Community Adjustment Characteristics*

Overall, the sample received an average of $416 ± $488 in income over the 30 days prior to baseline, 50 % of which was from benefits. Nineteen percent of the sample ($n = 269$) were on social security and 24 % ($n = 346$) had VA benefits. On average, participants worked approximately 4.3 ± 7.7 days a month. ASI employment index scores were 0.17 ± 0.26. The sample had spent approximately 35 out of the past 90 days homeless, 49 days institutionalized, and 6 days housed. Thirty-three percent of the sample ($n = 476$) had been in residential treatment at some point in the 90 days prior to baseline. In terms of legal issues, veterans had average ASI-legal index scores averaging 0.07 ± 0.21, with an average of one arrest for minor crimes and one arrest for major crimes over the 30 days prior to baseline.

**Table 15.2** Baseline clinical characteristics

| | Total sample $N=1{,}438$ | | Sources of support | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No family/no peer support (A) $N=183$ | | Peer-only support (B) $N=230$ | | Family-only support (C) $N=278$ | | Family and peer support (D) $N=747$ | | | | | |
| | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | $F$ or $\chi 2$ | df | $p$ | Multiple comparisons |
| Diagnosis (mutually exclusive categories) | | | | | | | | | | | 41.7 | 12 | <0.001 | |
| No diagnosis at intake | 86 | 6.0 % | 6 | 3.3 % | 15 | 6.5 % | 21 | 7.6 % | 44 | 5.9 % | | | | |
| Axis II or non-SMI dx only | 28 | 1.9 % | 3 | 1.6 % | 6 | 2.6 % | 7 | 2.5 % | 12 | 1.6 % | | | | |
| SMI only dx[a] | 194 | 13.5 % | 44 | 24.0 % | 34 | 14.8 % | 45 | 16.2 % | 71 | 9.5 % | | | | D<A***C* |
| Substance or Alcohol abuse/ dependency only | 623 | 43.3 % | 65 | 35.5 % | 84 | 36.5 % | 115 | 41.4 % | 359 | 48.0 % | | | | D>A*B* |
| Dually diagnosed with SMI and SA | 507 | 35.3 % | 65 | 35.5 % | 91 | 39.6 % | 90 | 32.4 % | 261 | 35.0 % | | | | |
| Diagnoses across sample (not mutually exclusive) | | | | | | | | | | | | | | |
| Schizophrenia | 109 | 7.9 % | 32 | 17.9 % | 11 | 5.0 % | 31 | 11.7 % | 35 | 4.9 % | 41.4 | 3.0 | <0.001 | A>B***D***, C>D*** |
| Other psychotic disorder | 78 | 5.7 % | 20 | 11.2 % | 11 | 5.0 % | 10 | 3.8 % | 37 | 5.2 % | 12.5 | 3.0 | 0.006 | A>C*D* |
| Mood disorder | 466 | 33.8 % | 68 | 38.0 % | 78 | 35.6 % | 86 | 32.6 % | 234 | 32.6 % | 2.4 | 3.0 | 0.50 | |
| PTSD from combat | 216 | 15.7 % | 28 | 15.6 % | 50 | 22.8 % | 40 | 15.2 % | 98 | 13.6 % | 10.8 | 3.0 | 0.01 | B>D* |
| Alcohol abuse/ dependency | 934 | 67.7 % | 109 | 60.9 % | 161 | 73.5 % | 164 | 62.1 % | 500 | 69.6 % | 12.2 | 3.0 | 0.007 | B>A*C* |

(continued)

**Table 15.2** (continued)

| | Total sample $N=1{,}438$ | | Sources of support | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No family/no peer support (A) $N=183$ | | Peer-only support (B) $N=230$ | | Family-only support (C) $N=278$ | | Family and peer support (D) $N=747$ | | | | | |
| | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | $F$ or $\chi 2$ | df | $p$ | Multiple comparisons |
| Drug abuse/ dependency | 754 | 54.6 % | 69 | 38.5 % | 99 | 45.2 % | 151 | 57.2 % | 435 | 60.6 % | 37.5 | 3.0 | <0.001 | D>A***B***, C>A*** |
| Psychiatric symptoms | | | | | | | | | | | | | | |
| Psychiatric Symptom Index (ASI) | 0.24 ± | 0.25 | 0.33 ± 0.26 | | 0.28 ± 0.25 | | 0.24 ± 0.26 | | 0.21 ± 0.24 | | 13.8 | 3, 1415 | <0.001 | D<A***B***, C<A** |
| Thoughts of suicide | 128 | 8.9 % | 20 | 10.9 % | 23 | 10.0 % | 27 | 9.7 % | 58 | 7.8 % | 2.7 | 3.0 | 0.44 | |
| Attempted suicide (past 30 days) | 12 | 0.8 % | 3 | 1.6 % | 3 | 1.3 % | 1 | 0.4 % | 5 | 0.7 % | 3.1 | 3.0 | 0.38 | |
| Feelings about emotional well-being | 3.4 ± 1.7 | | 2.9 ± 1.7 | | 3.1 ± 1.6 | | 3.3 ± 1.7 | | 3.7 ± 1.7 | | 14.4 | 3,1431 | <0.001 | D>A***B***C*** |
| Substance/alcohol use | | | | | | | | | | | | | | |
| Days intoxicated in past 30 | 4.3 ± 9.1 | | 4.5 ± 9.0 | | 3.8 ± 8.8 | | 3.9 ± 8.7 | | 4.6 ± 9.3 | | 0.6 | 3,1434 | 0.59 | |
| Days used drugs in past 30 | 4.2 ± 9.1 | | 3.6 ± 8.5 | | 3.2 ± 8.4 | | 4.8 ± 9.3 | | 4.5 ± 9.3 | | 1.9 | 3,1428 | 0.14 | |
| Total substance abuse expenditures | $195 ± $560 | | $169 ± $409 | | $196 ± $786 | | $230 ± $618 | | $188 ± $481 | | 0.5 | 3,1434 | 0.66 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| % Income spent on substances | 22.5 ± 37.5 % | 24.2 ± 38.3 % | 15.7 ± 32.4 % | 25.9 ± 39.9 % | 22.9 ± 37.6 % | 3.5 | 3,1434 | 0.02 | B < C* |
| Alcohol Index (ASI) | 0.18 ± 0.22 | 0.17 ± 0.22 | 0.17 ± 0.20 | 0.17 ± 0.22 | 0.19 ± 0.23 | 0.88 | 3,1422 | 0.44 | |
| Drug Index (ASI) | 0.07 ± 0.11 | 0.06 ± 0.11 | 0.05 ± 0.09 | 0.08 ± 0.12 | 0.08 ± 0.12 | 4.25 | 3,1407 | 0.005 | B < D** |
| Medical problems | | | | | | | | | |
| Medical Problem Index (ASI) | 0.36 ± 0.39 | 0.38 ± 0.41 | 0.44 ± 0.41 | 0.34 ± 0.39 | 0.34 ± 0.38 | 4.3 | 3,1412 | 0.005 | B > C*D** |

[a](Schizophrenia, other psychotic d/o, mood disorder, or PTSD)—no substance/alcohol use or abuse dx

The sample rated quality of life an average of 4.1 ± 1.5, which is mid-range on a scale from 1 = terrible to 7 = delighted. Family satisfaction ratings averaged 4.2 ± 1.5 and health satisfaction ratings averaged 4.1 ± 1.3. Quality of life subscales in which respondents averaged ratings of 3.4–3.9 ("mostly dissatisfied") were Leisure, Living Situation, Safety, Social, and Work. Veterans were largely "unhappy" with their financial situation, averaging scores of 2.6 ± 1.3. Scores on the Helzer Antisocial Index averaged 2.0 ± 2.2 for the sample. Family instability ratings averaged 4.5 ± 2.6. Forty-one percent ($n = 588$) of the sample was identified as "probably abused" by the interviewer.

In terms of social networks, 94 % of veterans identified having at least one close person in their lives, averaged 7.6 ± 5.4 relationship types that could be relied on as a source of tangible (1.6 ± 1.7 relationship types), instrumental (2.5 ± 2.0 relationship types), or emotional support (3.5 ± 2.5 relationship types). Total network size was 11.1 ± 9.6 and veterans had average total social support index scores (which took into consideration amount and frequency of supports) of 31.1 ± 32.3 (Table 15.3).

*Between-subgroup differences*. In comparison to veterans without family support, veterans with family support were less likely to have social security benefits (16 % vs. 25 %) and were employed more days out of the previous 30 ($p < 0.05$; 4.5 vs. 3.6). Veterans with perceived family support also had higher ratings of quality of life across all variables ($p < 0.001$: ranging 3.6–4.6 vs. 3.0–3.9) except employment. Satisfaction with finances and living situation were significantly higher for veterans with family support at $p < 0.05$. Veterans with family support were less likely to be considered abused (36 % vs. 53 %), had slightly lower Helzer Antisocial Index scores ($p < 0.05$, 1.9 vs. 2.2), and lower Family Instability scores (4.4 vs. 4.8) than veterans without family support. Finally, veterans with perceived family supports were more likely to have at least one close person in their lives (99 % vs. 83 %) and higher ratings on all social network variables than veterans without family support.

In comparison to veterans without peer support, veterans with peer support received a lesser percentage of income from benefits (48 % vs. 55 %), were employed significantly more days out of the previous 30 (4.7 vs. 3.3), had higher ASI-Employment scores (0.19 vs. 0.13), and were arrested for more minor crimes in the previous 30 days (1.2 vs. 1.1). Veterans with perceived peer support also had higher ratings on all quality of life scales at $p < 0.001$ (ranging from 3.5 to 4.2 vs. 3.1 to 4.0), except employment. Satisfaction with financial situation was significantly higher for those with peer support at $p < 0.01$ (2.6 vs. 2.4). Veterans with perceived availability of peer support had higher ratings on all social network variables than veterans without peer support.

Veterans with combined family and peer support had significantly higher ratings on all quality of life subscales than veterans with just family support, except satisfaction with family. Veterans with combined support also had a greater number of relationship types available for tangible, instrumental, and emotional support; larger network size; and higher scores on the index of total support than veterans with family-only support.

**Table 15.3** Baseline community adjustment characteristics

| | Total sample $N=1,438$ | | Sources of support: No family/no peer support (A) $N=183$ | | Peer-only support (B) $N=230$ | | Family-only support (C) $N=278$ | | Family and peer support (D) $N=747$ | | $F$ or $\chi^2$ | df | $p$ | Multiple comparisons |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | | | | |
| Income | | | | | | | | | | | | | | |
| Income in last 30 days | $416 ± $488 | | $420 ± $559 | | $395 ± $552 | | $411 ± $489 | | $422 ± $447 | | 0.2 | 3,1434 | 0.90 | |
| % Income from benefits | 50.0 ± 46.0 % | | 56.0 ± 46.8 % | | 49.7 ± 45.9 % | | 54.6 ± 45.9 % | | 46.8 ± 45.6 % | | 3.2 | 3,1427 | 0.02 | ns |
| SS benefits | 269 | 18.7 % | 50 | 27.3 % | 51 | 22.2 % | 42 | 15.1 % | 126 | 16.9 % | 14.8 | 3.0 | 0.002 | A>C**D** |
| VA benefits | 346 | 24.1 % | 40 | 21.9 % | 55 | 23.9 % | 79 | 28.4 % | 172 | 23.0 % | 3.8 | 3.0 | 0.28 | |
| Employment | | | | | | | | | | | | | | |
| Days worked for pay in past 30 | 4.3 ± 7.7 | | 2.7 ± 6.3 | | 4.3 ± 8.0 | | 3.6 ± 7.2 | | 4.9 ± 8.1 | | 4.7 | 3,1422 | 0.003 | D>A** |
| Employment Index (ASI) | 0.17 ± 0.26 | | 0.11 ± 0.22 | | 0.17 ± 0.26 | | 0.15 ± 0.25 | | 0.19 ± 0.28 | | 5.60 | 3,1418 | 0.001 | D>A** |
| Housing | | | | | | | | | | | | | | |
| Days homeless/ previous 90 | 34.9 ± 35.1 | | 38.4 ± 35.0 | | 34.9 ± 35.1 | | 35.2 ± 34.6 | | 33.9 ± 35.3 | | 0.8 | 3,1416 | 0.49 | |
| Days institutionalized/ previous 90 | 49.2 ± 36.7 | | 49.0 ± 36.1 | | 49.4 ± 36.7 | | 48.5 ± 36.6 | | 49.4 ± 37.0 | | 0.05 | 3,1430 | 0.98 | |
| Days housed/ previous 90 | 6.0 ± 16.4 | | 3.1 ± 11.2 | | 5.7 ± 15.9 | | 6.0 ± 14.8 | | 7.0 ± 18.2 | | 2.6 | 3,1431 | 0.05 | |

(continued)

**Table 15.3** (continued)

| | Total sample $N=1{,}438$ | | Sources of support | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No family/no peer support (A) $N=183$ | | Peer-only support (B) $N=230$ | | Family-only support (C) $N=278$ | | Family and peer support (D) $N=747$ | | | | |
| | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | $F$ or $\chi^2$ | df | $p$ | Multiple comparisons |
| In residential tx previous 90 days | 476 | 33.1 % | 60 | 32.8 % | 73 | 31.7 % | 90 | 32.4 % | 253 | 33.9 % | 0.47 | 3.00 | 0.93 | |
| Legal | | | | | | | | | | | | | | |
| Legal Problem Index (ASI) | 0.07 ± 0.21 | | 0.08 ± 0.24 | | 0.03 ± 0.13 | | 0.07 ± 0.21 | | 0.07 ± 0.21 | | 2.40 | 3,1375 | 0.06 | |
| Arrests in past 30 days: minor crimes | 1.2 ± 1.1 | | 1.0 ± 1.1 | | 1.2 ± 1.0 | | 1.1 ± 1.1 | | 1.3 ± 1.1 | | 3.2 | 3,1434 | 0.02 | ns |
| Arrests in past 30 days: major crimes | 1.1 ± 1.4 | | 1.1 ± 1.5 | | 1.0 ± 1.4 | | 1.0 ± 1.3 | | 1.2 ± 1.5 | | 1.3 | 3,1433 | 0.26 | |
| Quality of life | | | | | | | | | | | | | | |
| Life satisfaction | 4.1 ± 1.5 | | 3.7 ± 1.5 | | 3.9 ± 1.4 | | 4.0 ± 1.4 | | 4.3 ± 1.4 | | 14.1 | 3,1434 | <0.001 | D > A*** B** C** |
| Family | 4.2 ± 1.5 | | 3.2 ± 1.5 | | 3.3 ± 1.4 | | 4.5 ± 1.4 | | 4.6 ± 1.4 | | 78.6 | 3,1380 | <0.001 | CD > A*** B*** |
| Finances | 2.6 ± 1.3 | | 2.4 ± 1.4 | | 2.5 ± 1.2 | | 2.4 ± 1.2 | | 2.7 ± 1.3 | | 4.8 | 3,1433 | 0.002 | D > C** |
| Health | 4.1 ± 1.3 | | 3.8 ± 1.4 | | 3.9 ± 1.3 | | 3.9 ± 1.3 | | 4.2 ± 1.3 | | 8.8 | 3,1433 | <0.001 | D > A*** C** B* |
| Leisure | 3.4 ± 1.3 | | 3.0 ± 1.3 | | 3.1 ± 1.3 | | 3.2 ± 1.3 | | 3.6 ± 1.4 | | 19.2 | 3,1431 | <0.001 | D > A*** B*** C*** |
| Living situation | 3.4 ± 1.2 | | 3.0 ± 1.3 | | 3.3 ± 1.1 | | 3.2 ± 1.2 | | 3.5 ± 1.2 | | 10.3 | 3,1434 | <0.001 | D > A*** C*** |
| Safety | 3.4 ± 1.5 | | 3.0 ± 1.6 | | 3.3 ± 1.5 | | 3.2 ± 1.5 | | 3.6 ± 1.5 | | 12.1 | 3,1430 | <0.001 | D > A*** C*** B** |
| Social | 3.9 ± 1.3 | | 3.4 ± 1.3 | | 3.8 ± 1.2 | | 3.5 ± 1.3 | | 4.1 ± 1.2 | | 29.3 | 3,1433 | <0.001 | D > A*** B*** C***, B > A* C* |
| Work | 3.6 ± 1.8 | | 3.2 ± 2.0 | | 3.7 ± 1.6 | | 3.7 ± 1.9 | | 3.6 ± 1.8 | | 1.1 | 3,530 | 0.37 | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Social | | | | | | | | | | | | | | |
| Helzer Antisocial Index | 2.0±2.2 | | 2.3±2.3 | | 2.1±2.4 | | 1.9±2.2 | | 1.9±2.1 | | 1.6 | 3,1434 | 0.20 | |
| Family Instability Index | 4.5±2.6 | | 4.9±2.6 | | 4.8±2.8 | | 4.4±2.5 | | 4.4±2.6 | | 3.1 | 3,1434 | 0.03 | ns |
| Probably abused | 588 | 41.0 % | 100 | 54.6 % | 117 | 51.3 % | 103 | 37.1 % | 268 | 36.0 % | 33.7 | 3 | <0.001 | AB>C**D*** |
| Have at least one close person in life | 1349 | 93.8 % | 124 | 67.8 % | 217 | 94.3 % | 271 | 97.5 % | 737 | 98.7 % | 250.9 | 3 | <0.001 | D>B***>A***, C>A*** |
| # Relationship types as source of support | 7.6±5.4 | | 2.4±.9 | | 4.5±2.3 | | 4.8±2.4 | | 10.8±5.4 | | 327.4 | 3,1433 | <0.001 | D>B***C***>A*** |
| Tangible support (e.g., loan) | 1.6±1.7 | | .1±.3 | | .8±.8 | | 1.1±.9 | | 2.5±1.8 | | 199 | 3,1433 | <0.001 | D>B***C***>A*** |
| Instrumental support (e.g., ride) | 2.5±2.0 | | 1.1±.3 | | 1.6±1.0 | | 1.4±.9 | | 3.4±2.2 | | 172.4 | 3,1433 | <0.001 | D>A***B***C***, B>A** |
| Emotional support (e.g., if suicidal) | 3.5±2.5 | | 1.3±.5 | | 2.1±1.2 | | 2.2±1.4 | | 4.9±2.6 | | 263.3 | 3,1433 | <0.001 | D>B***C***>A*** |
| Total network size | 11.1±9.6 | | 4.3±6.3 | | 8.1±7.5 | | 9.5±8.4 | | 14.2±9.9 | | 78.1 | 3,1433 | <0.001 | D>B***C***>A*** |
| Total Support Index | 31.1±32.3 | | 9.0±16.2 | | 23.6±24.0 | | 23.1±25.8 | | 41.7±35.3 | | 75.9 | 3,1433 | <0.001 | D>B***C***>A*** |

### *15.3.3 Social Support Characteristics*

*Network composition*. Overall, 94 % of veterans ($n = 1{,}349$) in the sample had at least one close person in their lives. The average size of social networks was 11.1 ± 9.6 persons, the majority of whom were family members. Participants identified an average of 5.5 ± 5.3 close family members, equivalent to 50 ± 33 % of one's total network. Veterans identified an average of 4.2 ± 5.0 close peers (friends, other veterans, and coworkers) in their networks, making up approximately 32 ± 29 % of the total network size. Professionals made up about 12 ± 19 % of the total network size, equivalent to an average 1.4 ± 2.2 professionals in veteran networks.

*Frequency of contact*. Fifty-two percent of the sample had at least monthly contact with family, 55 % had at least monthly contact with peers, and 34 % had at least monthly contact with providers. Weekly contact with family, peers, and providers occurred for 37, 46, and 25 % of veterans, respectively.

*Total support indices*. Support indices are the sum of the number of people (up to 8) in each relationship category multiplied by the highest frequency of contact with people in that category (score of "5"). Veterans in this sample had average scores of 31.1 ± 32.3 on the Total Support Index, out of a maximum possible score of 400. Average scores on the natural support index were 26.7 ± 28.6 (out of a possible 360). Veterans scored an average of 12.2 ± 15.5 on the family support index variable (out of 240 possible). Average scores on the peer support index were 14.5 ± 20.2 (out of 120 possible). Finally, average scores on the provider support index were 4.4 ± 8.0 (out of 40 possible).

*Type of support: tangible, instrumental, and emotional*. The majority of veterans in the sample could identify at least one source of support for a small loan (71 %), a ride (99 %), and someone to turn to if feeling suicidal (99.7 %). The average number of relationship clusters available for tangible support (small loan) was 1.6 ± 1.7 (out of ten clusters). The average number of relationship clusters available for instrumental support (ride) was 2.5 ± 2.0 (out of 11 clusters). The average number of relationship clusters available as a source of emotional support was 3.5 ± 2.5 (out of 11 clusters). The total number of clusters available for any type of support was 7.6 ± 5.4.

*Satisfaction with support*. Specific items from the Lehman QOL scale were examined to determine degree of satisfaction with elements of one's support network. Veterans rated each item on a scale from 1 to 7 (terrible-delighted). Results indicate that veterans, on average, rated satisfaction with family highest at 4.6 ± 1.7. Feelings about how veterans got along with others were also highly rated at 4.5 ± 1.5. Other highly rated items were satisfaction with frequency of contact with doctor (4.2 ± 1.7) and therapist (4.3 ± 1.8). The lowest rated items were "people who live near me" (3.3 ± 1.6) and satisfaction with amount of friendship (3.6 ± 1.8), amount of time spent with others (3.7 ± 1.5), and people seen socially (3.7 ± 1.6).

*Between-subgroup differences*. Veterans who could rely on both family members and peers as a sources of TIE had significantly larger social networks, including more family members, peers, and professionals; more frequent contact with

members of their support networks; and greater numbers of relationship clusters available for tangible, instrumental, and emotional support, than veterans with single-cluster TIE support (family only or peer only) and those with no family or peers who could provide TIE support. Of veterans who could not rely on a single family member as a source of TIE support, 57 % had at least one family member in their social network to whom they felt close. Of veterans who could not rely on a single peer as a source of TIE support, 40 % had at least one friend, veteran, or coworker in their social network to whom they felt close. Veterans with combined family and peer TIE support were most likely to identify at least one source of support for a small loan (88.4 %). This percentage decreased among veterans with family-only TIE support (73.7 %) and peer-only TIE support (62.2 %), down to only 6 % of veterans with neither family nor peer TIE support. Instrumental and emotional support were more readily available to all veterans in the sample, regardless of category of support. Satisfaction with social support was significantly higher for veterans with combined family and peer support than veterans with single-cluster support (family or peer) or no family or peer support (Table 15.4).

### *15.3.4 Comparison of Veterans in HUD-VASH to Persons with Mental Illness in the Connecticut Outcome Study*

Individuals in the Connecticut Outcome Study (COS) (Desai et al., 2005), a sample of domiciled adults with SMI, were comparable to HUD-VASH in terms of proportion of sample who could rely on both family members and peers for support and those who could rely on neither family members nor peers for support. COS had a greater proportion of participants who identified family, but no peers as a source of TIE support, while HUD-VASH had a greater proportion of participants who identified peers but no family as a source of TIE support. A small, but significantly greater proportion of COS participants identified at least one close person in their life (97 % vs. 94 %). COS participants were more likely to be able to identify at least one close family member in their network (93 % vs. 84 %), with greater numbers of family of origin and fewer numbers of family of procreation members than HUD-VASH.

The number of peers identified as part of participants' social networks was significantly higher in HUD-VASH than in COS (3.6 vs. 2.8). A greater proportion of COS participants identified having at least one close provider than HUD-VASH participants (66 % vs. 47 %). Frequency of contact with family members, peers, and providers was higher for the COS sample than HUD-VASH. COS participants averaged higher scores on each of the support indices and were more likely to have at least one source of tangible support (mostly from family). A greater proportion of HUD-VASH participants were able to identify at least one source of instrumental support and emotional support. COS participants were more likely to identify family members as a source of TIE support, while a greater proportion of HUD-VASH participants identified a peer as a source of TIE support (Table 15.5).

**Table 15.4** Social support variables

| | Total sample $N=1{,}438$ | | Sources of support | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No family/no peer support (A) $N=183$ | | Peer-only support (B) $N=230$ | | Family-only support (C) $N=278$ | | Family and peer support (D) $N=747$ | | | | | |
| | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | $F$ or $\chi^2$ | df | $p$ | Multiple comparisons |
| Network size | | | | | | | | | | | | | | |
| Veterans with at least one close person in life | 1349 | 93.8 % | 124 | 67.8 % | 217 | 94.3 % | 271 | 97.5 % | 737 | 98.7 % | 250.7 | 3 | <0.001 | D>B***>A***, C>A*** |
| Total network size | 11.1±9.6 | | 4.3±6.3 | | 8.1±7.5 | | 9.5±8.4 | | 14.2±9.9 | | 78.1 | 3,1434 | <0.001 | D>C***B***>A*** |
| Natural support network size (no providers) | 9.7±8.5 | | 3.6±5.5 | | 6.7±6.6 | | 8.6±7.5 | | 12.5±8.9 | | 79.7 | 3,1434 | <0.001 | D>C***B***>A*** |
| Network composition | | | | | | | | | | | | | | |
| Veterans with at least one family member | 1208 | 84.0 % | 95 | 51.9 % | 139 | 60.4 % | 263 | 94.6 % | 711 | 95.2 % | 328.1 | 3 | <0.001 | CD>A***B*** |
| Average # of close family members | 5.5±5.3 | | 2.5±4.2 | | 2.6±3.7 | | 6.3±5.2 | | 6.8±5.3 | | 71.2 | 3,1434 | <0.001 | CD>A***B*** |
| # of family of origin members | 2.5±2.6 | | 1.3±2.4 | | 0.9±1.6 | | 3.1±2.7 | | 3.0±2.6 | | 62.5 | 3,1434 | <0.001 | CD>A***B*** |
| # of family of procreation members | 1.5±1.8 | | 0.7±1.4 | | 0.9±1.5 | | 1.7±1.9 | | 1.7±1.9 | | 25.1 | 3,1434 | <0.001 | CD>A***B*** |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| # of extended family members | 1.6 ± 2.6 | | 0.5 ± 1.6 | | 0.7 ± 1.9 | | 1.5 ± 2.4 | | 2.1 ± 2.8 | | 31.2 | 3,1434 | <0.001 | D > A*** B*** C**, C > A*** B* |
| % of total network made up of family | 49.7 ± 33.3 % | | 39.1 ± 42.8 % | | 28.9 ± 31.9 % | | 71.2 ± 29.9 % | | 50.7 ± 26.7 % | | 88.4 | 3,1434 | <0.001 | C > D*** > A*** B***, A > B** |
| Veterans with at least one close peer | 1014 | 70.5 % | 57 | 31.1 % | 189 | 82.2 % | 125 | 45.0 % | 643 | 86.1 % | 325.8 | 3 | <0.001 | BD > C*** A***, C > A* |
| Average # of peers | 4.2 ± 5.0 | | 1.1 ± 2.6 | | 4.2 ± 4.7 | | 2.2 ± 3.9 | | 5.6 ± 5.4 | | 66.1 | 3,1434 | <0.001 | D > B*** > A*** C*** |
| # of friends | 1.8 ± 2.4 | | 0.6 ± 1.3 | | 1.9 ± 2.4 | | 1.1 ± 2.0 | | 2.4 ± 2.6 | | 45.2 | 3,1434 | <0.001 | D > B* > A*** C*** |
| # of veterans | 1.8 ± 2.6 | | 0.4 ± 1.3 | | 1.9 ± 2.5 | | 0.9 ± 2.0 | | 2.4 ± 2.8 | | 52.2 | 3,1434 | <0.001 | D > B* > A*** C*** |
| # Coworkers | 0.5 ± 1.6 | | 0.1 ± 0.9 | | 0.4 ± 1.3 | | 0.3 ± 1.2 | | 0.8 ± 1.8 | | 11.9 | 3,1434 | <0.001 | D > B** A*** C*** |
| % of total network made up of peers | 32.1 ± 28.7 % | | 16.4 ± 29.9 % | | 48.5 ± 33.6 % | | 17.7 ± 24.5 % | | 36.3 ± 23.6 % | | 84.7 | 3,1434 | <0.001 | B > D*** > A*** C*** |
| Veterans with at least one close provider | 670 | 46.6 % | 49 | 26.8 % | 113 | 49.1 % | 95 | 34.2 % | 413 | 55.3 % | 69.4 | 3 | <0.001 | B > A*** C**, d > A*** C*** |
| Average # of providers | 1.4 ± 2.2 | | 0.7 ± 1.5 | | 1.4 ± 2.0 | | 1.0 ± 1.9 | | 1.7 ± 2.4 | | 16.5 | 3,1434 | <0.001 | D > A*** C***, B > A** |
| % of total network made up of providers | 12.0 ± 18.5 % | | 12.3 ± 25.1 % | | 16.9 ± 23.6 % | | 8.6 ± 16.4 % | | 11.7 ± 15.0 % | | 8.8 | 3,1434 | <0.001 | B > C*** D*** |

(continued)

**Table 15.4** (continued)

| | Total sample $N=1{,}438$ | | Sources of support | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No family/no peer support (A) $N=183$ | | Peer-only support (B) $N=230$ | | Family-only support (C) $N=278$ | | Family and peer support (D) $N=747$ | | | | | |
| | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | $F$ or $\chi^2$ | df | $p$ | Multiple comparisons |
| Frequency of contact | | | | | | | | | | | | | | |
| Monthly contact with family | 744 | 51.7 % | 38 | 20.8 % | 50 | 21.7 % | 175 | 62.9 % | 481 | 64.4 % | 215.1 | 3 | <0.001 | CD>A***B*** |
| Monthly contact with peers | 795 | 55.3 % | 33 | 18.0 % | 156 | 67.8 % | 84 | 30.2 % | 522 | 69.9 % | 252.4 | 3 | <0.001 | BD>C***A***, C>A* |
| Monthly contact with providers | 488 | 33.9 % | 38 | 20.8 % | 87 | 37.8 % | 58 | 20.9 % | 305 | 40.8 % | 52.7 | 3 | <0.001 | B>A**C***, D>A***C*** |
| Weekly contact with family | 530 | 36.9 % | 23 | 12.6 % | 35 | 15.2 % | 124 | 44.6 % | 348 | 46.6 % | 130.2 | 3 | <0.001 | CD>A***B*** |
| Weekly contact with peers | 666 | 46.3 % | 24 | 13.1 % | 139 | 60.4 % | 64 | 23.0 % | 439 | 58.8 % | 206.8 | 3 | <0.001 | BD>C***A***, C>A* |
| Weekly contact with providers | 362 | 25.2 % | 28 | 15.3 % | 56 | 24.3 % | 47 | 16.9 % | 231 | 30.9 % | 32.8 | 3 | <0.001 | D>A***C*** |
| Total Support Indices (network size×contact) | | | | | | | | | | | | | | |
| Total Support Index | 31.1±32.3 | | 9.0±16.2 | | 23.6±24.0 | | 23.1±25.8 | | 41.7±35.3 | | 75.9 | 3,1434 | <0.001 | D>B***C***>A*** |
| Total Natural Support Index | 26.7±28.6 | | 6.8±13.7 | | 19.4±20.9 | | 20.4±23.2 | | 36.1±31.3 | | 76.8 | 3,1434 | <0.001 | D>B***C***>A*** |
| Total Family Support Index | 12.2±15.5 | | 4.0±10.2 | | 4.2±8.8 | | 14.2±15.3 | | 16.0±16.6 | | 59.9 | 3,1434 | <0.001 | CD>A***B*** |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Peer Support Index | 14.5 ± 20.2 | | 2.8 ± 8.1 | | 15.2 ± 18.8 | | 6.2 ± 13.5 | | 20.2 ± 22.5 | | 63.2 | 3,1434 | <0.001 | D > B** > A***C*** |
| Total Provider Support Index | 4.4 ± 8.0 | | 2.2 ± 5.1 | | 4.2 ± 7.1 | | 2.8 ± 6.7 | | 5.6 ± 9.1 | | 14.6 | 3,1434 | <0.001 | D > A***C*** |
| Perceived availability of tangible, instrumental, emotional support (TIES) | | | | | | | | | | | | | | |
| Have at least one source of: | | | | | | | | | | | | | | |
| Tangible support (e.g., loan) | 1020 | 70.9 % | 12 | 6.6 % | 143 | 62.2 % | 205 | 73.7 % | 660 | 88.4 % | 487.4 | 3 | <0.001 | D > C***B*** > A***, C > B* |
| Instrumental support (e.g., ride) | 1430 | 99.4 % | 181 | 98.9 % | 228 | 99.1 % | 276 | 99.3 % | 745 | 99.7 % | 2.6 | 3 | 0.45 | ns |
| Emotional support (e.g., if suicidal) | 1434 | 99.7 % | 181 | 98.9 % | 228 | 99.1 % | 278 | 100.0 % | 747 | 100.0 % | 10.1 | 3 | 0.02 | ns |
| # Relationship types serving as source of: | | | | | | | | | | | | | | |
| Tangible support (e.g., loan) | 1.6 ± 1.7 | | 0.1 ± 0.3 | | 0.8 ± 0.8 | | 1.1 ± 0.9 | | 2.5 ± 1.8 | | 199.0 | 3,1434 | <0.001 | D > B***C*** > A*** |
| Instrumental support (e.g., ride) | 2.5 ± 2.0 | | 1.1 ± 0.3 | | 1.6 ± 1.0 | | 1.4 ± 0.9 | | 3.4 ± 2.2 | | 172.4 | 3,1434 | <0.001 | D > A***B***C***, B > A** |
| Emotional support (e.g., if suicidal) | 3.5 ± 2.5 | | 1.3 ± 0.5 | | 2.1 ± 1.2 | | 2.2 ± 1.4 | | 4.9 ± 2.6 | | 263.3 | 3,1434 | <0.001 | D > B***C*** > A*** |
| Total # of relationship types available for support | 7.6 ± 5.4 | | 2.4 ± 0.9 | | 4.5 ± 2.3 | | 4.8 ± 2.4 | | 10.8 ± 5.4 | | 327.5 | 3,1434 | <0.001 | D > B***C*** > A*** |

(continued)

**Table 15.4** (continued)

| | Total sample $N=1{,}438$ | | Sources of support | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No family/no peer support (A) $N=183$ | | Peer-only support (B) $N=230$ | | Family-only support (C) $N=278$ | | Family and peer support (D) $N=747$ | | | | |
| | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | $F$ or $\chi^2$ | df | $p$ | Multiple comparisons |
| Satisfaction with support | | | | | | | | | | | | | | |
| How feel about… | | | | | | | | | | | | | | |
| People live near | 3.3 ± 1.6 | | 2.9 ± 1.6 | | 3.4 ± 1.5 | | 3.2 ± 1.6 | | 3.5 ± 1.7 | | 9.0 | 3,1428 | <0.001 | D > A***C**, B > A** |
| People in town | 4.0 ± 1.5 | | 3.6 ± 1.6 | | 4.0 ± 1.3 | | 3.8 ± 1.5 | | 4.1 ± 1.4 | | 9.3 | 3,1427 | <0.001 | D > A***C**, B > A** |
| Family in general | 4.6 ± 1.7 | | 3.3 ± 1.7 | | 3.7 ± 1.7 | | 4.9 ± 1.6 | | 5.0 ± 1.5 | | 80.2 | 3,1380 | <0.001 | DC > A***B*** |
| Frequency of family contact | 4.0 ± 1.7 | | 3.2 ± 1.8 | | 3.2 ± 1.8 | | 4.0 ± 1.7 | | 4.3 ± 1.6 | | 34.2 | 3,1378 | <0.001 | DC > A***B*** |
| Way things are between vet and family | 4.1 ± 1.8 | | 3.2 ± 1.8 | | 3.1 ± 1.7 | | 4.4 ± 1.7 | | 4.5 ± 1.7 | | 59.7 | 3,1378 | <0.001 | DC > A***B*** |
| Things did with other people | 3.8 ± 1.6 | | 3.4 ± 1.6 | | 3.8 ± 1.5 | | 3.4 ± 1.5 | | 4.0 ± 1.5 | | 15.8 | 3,1430 | <0.001 | D > C***A***, B > C** |
| Amount of time with others | 3.7 ± 1.5 | | 3.6 ± 1.6 | | 3.6 ± 1.4 | | 3.3 ± 1.5 | | 3.8 ± 1.4 | | 10.8 | 3,1433 | <0.001 | D > C***, B > C* |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| People saw socially | 3.7 ± 1.6 | 3.4 ± 1.6 | 3.7 ± 1.5 | 3.2 ± 1.5 | 4.0 ± 1.5 | 20.5 | 3,1429 | <0.001 | D > A***C***, B > C*** |
| How got along with people | 4.5 ± 1.5 | 4.1 ± 1.5 | 4.4 ± 1.5 | 4.2 ± 1.5 | 4.7 ± 1.4 | 16.4 | 3,1430 | <0.00' | D > A***B**C*** |
| Chance to know people comfortable with | 3.9 ± 1.6 | 3.3 ± 1.6 | 3.7 ± 1.6 | 3.6 ± 1.6 | 4.3 ± 1.6 | 25.8 | 3,1430 | <0.001 | D > A***B***C*** |
| Amount of friendship | 3.6 ± 1.8 | 2.9 ± 1.6 | 3.5 ± 1.8 | 3.2 ± 1.7 | 4.0 ± 1.7 | 28.4 | 3,1432 | <0.001 | D > A***B***C***, B > A*** |
| How often saw doctor | 4.2 ± 1.7 | 4.0 ± 1.8 | 4.2 ± 1.7 | 4.1 ± 1.6 | 4.3 ± 1.7 | 2.2 | 3,1431 | 0.08 | ns |
| Chance to talk to therapist | 4.3 ± 1.8 | 4.0 ± 1.9 | 4.3 ± 1.8 | 4.1 ± 1.7 | 4.4 ± 1.8 | 3.7 | 3,1428 | 0.01 | D > A* |

**Table 15.5** Comparison between HUD-VASH and Connecticut Outcomes Study (COS) data on social support variables

| | Sample | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total $N=1,977$ | | HUD-VASH $N=1,438$ | | COS $N=539$ | | | | |
| Network characteristics | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | $F$ or $\chi^2$ | df | $p$ |
| *Category of support* | | | | | | | 80.11 | 3 | <0.001 |
| No natural supports | 237 | 12.0 % | 183 | 12.7 % | 54 | 10.0 % | | | |
| Peer/no family supports | 264 | 13.4 % | 230 | 16.0 % | 34 | 6.3 % | | | <0.001 |
| Family/no peer supports | 475 | 24.0 % | 278 | 19.3 % | 197 | 36.5 % | | | <0.001 |
| Diverse family and peer supports | 1001 | 50.6 % | 747 | 51.9 % | 254 | 47.1 % | | | |
| *Network size* | | | | | | | | | |
| # With at least one close person in life | 1871 | 94.6 % | 1349 | 93.8 % | 522 | 96.8 % | 7.1 | 1 | 0.008 |
| Total network size | 10.4±8.1 | | 10.5±8.5 | | 10.0±7.0 | | 1.2 | 1,1975 | 0.276 |
| Natural support network size (no providers) | 8.9±7.2 | | 9.1±7.5 | | 8.4±6.1 | | 3.5 | 1,1975 | 0.062 |
| *Network composition* | | | | | | | | | |
| Family | | | | | | | | | |
| Persons with at least one close family member | 1707 | 86.3 % | 1208 | 84.0 % | 499 | 92.6 % | 24.4 | 1 | <0.001 |
| # of close family members | 5.5±5.0 | | 5.5±5.3 | | 5.6±4.4 | | 0.1 | 1,1975 | 0.797 |
| # of family of origin members | 2.6±2.6 | | 2.5±2.6 | | 3.0±2.5 | | 15.3 | 1,1975 | <0.001 |
| # of family of procreation members | 1.3±1.8 | | 1.5±1.8 | | 0.8±1.4 | | 54.7 | 1,1975 | <0.001 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| # of extended family members | 1.6 ± 2.6 | | 1.6 ± 2.6 | | 1.8 ± 2.6 | | 2.3 | 1,1975 | 0.126 |
| % of Total network: family | 52.1 ± 32.2 % | | 50.5 ± 33.2 % | | 56.1 ± 29.3 % | | 11.8 | 1,1975 | 0.001 |
| Peers | | | | | | | | | |
| Persons with at least one close peer | 1379 | 69.8 % | 1014 | 70.5 % | 365 | 67.7 % | 1.5 | 1 | 0.228 |
| # of peers | 3.4 ± 3.7 | | 3.6 ± 3.8 | | 2.8 ± 3.3 | | 16.1 | 1,1975 | <0.001 |
| # of friends | 2.8 ± 2.9 | | 3.0 ± 3.0 | | 2.3 ± 2.6 | | 24.4 | 1,1975 | <0.001 |
| # Coworkers | 0.5 ± 1.5 | | 0.5 ± 1.6 | | 0.5 ± 1.5 | | 0.0 | 1,1975 | 0.912 |
| % of Total network: peers | 29.1 ± 27.0 % | | 30.9 ± 28.0 % | | 24.3 ± 23.7 % | | 24.4 | 1,1975 | <0.001 |
| Providers | | | | | | | | | |
| Persons with at least one close provider | 1026 | 51.9 % | 670 | 46.6 % | 356 | 66.0 % | 59.5 | 1 | <0.001 |
| # of providers | 1.5 ± 2.1 | | 1.4 ± 2.2 | | 1.6 ± 2.0 | | 4.5 | 1,1975 | 0.035 |
| % of Total network: providers | 13.4 ± 19.0 % | | 12.3 ± 18.7 % | | 16.5 ± 19.5 % | | 18.8 | 1,1975 | <0.001 |
| *Frequency of contact* | | | | | | | | | |
| At least monthly contact with: | | | | | | | | | |
| Family | 1156 | 58.5 % | 744 | 51.7 % | 412 | 76.4 % | 98.5 | 1 | <0.001 |
| Peers | 1115 | 56.4 % | 795 | 55.3 % | 320 | 59.4 % | 2.7 | 1 | 0.1 |
| Providers | 821 | 41.5 % | 488 | 33.9 % | 333 | 61.8 % | 125.2 | 1 | <0.001 |
| At least weekly contact with: | | | | | | | | | |
| Family | 875 | 44.3 % | 530 | 36.9 % | 345 | 64.0 % | 117.2 | 1 | <0.001 |
| Peers | 949 | 48.0 % | 666 | 46.3 % | 283 | 52.5 % | 6.0 | 1 | 0.014 |

(continued)

**Table 15.5** (continued)

| Network characteristics | Total $N=1,977$ | | Sample: HUD-VASH $N=1,438$ | | Sample: COS $N=539$ | | $F$ or $\chi^2$ | df | $p$ |
|---|---|---|---|---|---|---|---|---|---|
| | Mean or $N$ | SD or % | Mean or $N$ | SD or % | Mean or $N$ | SD or % | | | |
| Providers | 601 | 30.4 % | 362 | 25.2 % | 239 | 44.3 % | 68.1 | 1 | <0.001 |
| *Total support indices (network size × contact)* | | | | | | | | | |
| Total Support Index | 31.1 ± 28.1 | | 29.9 ± 28.9 | | 34.5 ± 25.6 | | 10.6 | 1,1975 | 0.001 |
| Total Natural Support Index | 26.2 ± 24.4 | | 25.5 ± 25.2 | | 28.2 ± 21.9 | | 4.7 | 1,1975 | 0.03 |
| Total Family Support Index | 13.5 ± 15.4 | | 12.2 ± 15.5 | | 16.8 ± 14.6 | | 35.4 | 1,1975 | <0.001 |
| Total Peer Support Index | 12.7 ± 15.8 | | 13.2 ± 16.4 | | 11.3 ± 14.1 | | 5.8 | 1,1975 | 0.016 |
| Total Provider Support Index | 4.9 ± 8.3 | | 4.4 ± 8.0 | | 6.3 ± 8.7 | | 21.3 | 1,1975 | 0.001 |
| *Perceived availability of TIES (tangible, instrumental, emotional support)* | | | | | | | | | |
| Have at least one source of: | | | | | | | | | |
| Tangible support (e.g., loan) | 1462 | 74.0 % | 1020 | 70.9 % | 442 | 82.0 % | 25.0 | 1 | <0.001 |
| From Family | 1167 | 59.0 % | 792.0 | 55.1 % | 375.0 | 69.6 % | 34.1 | 1 | <0.001 |
| From Peers | 686 | 34.7 % | 536.0 | 37.3 % | 150.0 | 27.8 % | 15.4 | 1 | <0.001 |
| Instrumental support (e.g., ride) | 1896 | 95.9 % | 1430 | 99.4 % | 466 | 86.5 % | 168.3 | 1 | <0.001 |
| From family | 952 | 48.2 % | 647 | 45.0 % | 305 | 56.6 % | 21.1 | 1 | <0.001 |
| From peers | 982 | 49.7 % | 778 | 54.1 % | 204 | 37.8 % | 41.4 | 1 | <0.001 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Emotional support (e.g., if suicidal) | 1930 | 97.6 % | 1434 | 99.7 % | 496 | 92.0 % | 100.2 | 1 | <0.001 |
| From family | 1142 | 57.8 % | 828 | 57.6 % | 314 | 58.3 % | 0.1 | 1 | 0.79 |
| From peers | 978 | 49.5 % | 801 | 55.7 % | 177 | 32.8 % | 82.0 | 1 | <0.001 |
| # Relationship clusters serving as source of: | | | | | | | | | |
| Tangible support (e.g., loan) | 1.6 ± 1.5 | | 1.5 ± 1.5 | | 1.8 ± 1.5 | | 10.2 | 1,1975 | 0.001 |
| Instrumental support (e.g., ride) | 2.0 ± 1.6 | | 2.1 ± 1.6 | | 1.8 ± 1.4 | | 3.0 | 1,1975 | 0.09 |
| Emotional support (e.g., if suicidal) | 2.8 ± 2.0 | | 2.9 ± 2.0 | | 2.6 ± 1.8 | | 18.2 | 1,1975 | <0.001 |
| Total # of clusters available for TIES | 6.5 ± 4.3 | | 6.6 ± 4.4 | | 6.2 ± 3.9 | | 2.5 | 1,1975 | 0.11 |

## 15.4 Discussion

Social network research has typically examined individual characteristics and outcomes as a function of network characteristics such as size, contact, composition, and function. The present study is unique in that we examined demographic, socio-clinical, and social network characteristics as a function of the absolute availability of family and/or peers as sources of specific types of tangible, instrumental, and emotional (TIE) support. Similar to reports from studies of a more general sample of homeless individuals, our research found that the vast majority of homeless veterans in our sample identified having at least one close person in their lives and that the number of social ties was inversely related to the length of time homeless. Results of this study suggest that, on average, homeless veterans in this sample tended to have smaller social networks than the general population of persons who were not homeless, but were more similar in the degree of diffusion of specific types of support across multiple relationship clusters. And rates of the availability of any source of instrumental and emotional support were consistently high among almost 100 % of veterans—estimates that are 30–50 % higher than rates of support among samples of homeless persons in general.

When examining sources of TIE support, we found that 52 % of our sample received some sort of TIE support from at least one family member and at least one peer. Veterans who could identify both family members and peers for TIE supports had the most positive clinical and community adjustment profiles of the four comparison subgroups. In general, veterans who could rely on at least one family member as a source of TIE support had significantly larger social networks, were more likely to have peers in their network of support, had more frequent contact with support network members, and were more satisfied with supports than veterans who could not rely on any family members for TIE support. Socio-demographically, these veterans were younger, more likely to be black, and experienced fewer (and shorter) episodes of homelessness. Clinically, veterans with family support were less likely to have a diagnosis of a severe mental illness and more likely to be diagnosed with a drug abuse/dependency problem than those without family support.

Veterans with peer, but no family support, were more likely to have a diagnosis of alcohol abuse/dependency and had more frequent contact with providers, but were similar to those with family-only support in terms of length of time homeless, nights spent sleeping outdoors, and satisfaction with social support. Peers may play an important role in mediating the impact of homelessness when family members are not available. Peers may help encourage contact with providers who can assist or perhaps peer relationships are developed in the context of provider-run programs.

The last category of veterans—those who identified neither peers nor family members as sources of TIE support—were significantly more likely to have an SMI diagnosis, had the most frequent episodes and longest length of time homeless, smallest social networks, were less satisfied with their social relationships and emotional health, and had the poorest profiles in terms of clinical and community

adjustment variables. However, it is important to note that of these veterans, 52 % identified at least one family member in their network of close individuals, with the average of three family members, and 31 % included at least one peer in their network of close individuals. And 18–21 % had at least monthly contact with family and peers, respectively. Thus, although this subpopulation of homeless veterans may be at most risk for subsequent homelessness and in need of the most tangible, instrumental, and emotional support, more than half have close family members and 1/3 have close peers in their lives. The causal relationship between the presence of a severe mental illness and lack of support from peers and family members is unknown. The question remains as to whether impaired peer and family member ties contribute to exacerbation of mental illness or whether symptoms of mental illness contribute to the breakdown of network ties. Programs that focus on addressing the issues of mental illness that may contribute to impaired relationships as well as programs that help to promote the development or re-establishment of healthy family and peer relationships are needed.

### *15.4.1 Limitations*

The present study has several limitations that should be considered when interpreting the results. First of all, the sample of homeless veterans included in this study were those who had already connected with a supported housing program. Thus, the social networks of this sample of homeless veterans are likely larger and perhaps more diffuse than those of homeless veterans who are not connected with such programming. Second, the data used in this study were collected from 1993 to 2000 and may not represent the social networks of newer generations of veterans serving in more recent conflicts in the Middle East (Operation Iraqi Freedom and Operation Enduring Freedom). Third, our sample included very few female veterans, who have disproportionately high rates of homelessness among military veterans in comparison to their male counterparts. Female veterans report high rates of trauma, both prior to and during their military careers, which may be a contributing factor. Research that focuses specifically on this subpopulation of military personnel is critically needed. Finally, this sample did not include veterans who were less than honorably discharged, a difficult to reach, subgroup of veterans who may have greater impairment in their social network ties.

### *15.4.2 Conclusions*

The availability of adequate social support has been associated with a number of positive psychiatric and health outcomes among persons experiencing significant life challenges. Yet, the examination of social networks of persons who are homeless, especially veterans, has not been explored sufficiently—perhaps due to assumptions

that homeless individuals, by definition, have impaired social ties. The results of the present study suggest that homeless veterans have diverse social networks, ranging greatly in size, composition, and function and that greater support, especially from families, may be associated with more positive outcomes for these individuals. Given the benefits of social supports seen in other populations, this is a critical area for future research.

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